ARCHITECTURAL
RECORD

McGraw Hill
CONSTRUCTION

09 2007

$9.95 A PUBLICATION OF THE MCGRAW-HILL COMPANIES www.architecturalrecord.com

INTERIORS

Six light-hued and nuanced spaces

CEILING & WALL SYSTEMS

[Between us, ideas become reality.]®

Armstrong World Industries Corporate Headquarters, LEED®-EB Platinum Certified
Ekos Maple Finish. Background: Ekos Mahogany Finish

U.S. Patent Pending

WoodWorks Ekos Wall Systems can help contribute to LEED® credits in a number of areas. Contact TechLine at 1-877-ARMSTRONG for more information.

Construction Waste Management	Recycled Content	Regional Materials	Low-Emitting Materials
2.1-2 MR CREDIT	4.1-2 MR CREDIT	5.1-2 MR CREDIT	4.4 EQ CREDIT

the air apparent

WoodWorks® Ekos™ Wall Systems are like a breath of fresh air. The panels contain no-added formaldehyde and no-detectable formaldehyde emissions. They're made with a rich, natural wood veneer over a mineral fiber substrate. The panels come in four finishes and three convenient lengths. The integrated system includes a wide selection of solid wood and aluminum trim accessories. And Ekos perforated wall panels provide excellent sound absorption, keeping the air both clean and quiet.

armstrong.com/walls **1-877-ARMSTRONG**

CIRCLE 01 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Armstrong®

With CITY MULTI systems an atmosphere of creativity flows freely.

Now there are building comfort solutions that will inspire your imagination instead of limiting it.

CITY MULTI gives you ultimate design flexibility so you can push the building envelope, with options for maximizing interior space and ceiling heights without concerns of concealing bulky ductwork.

Get unparalleled comfort, control and cost effective use of energy. All with great sustainability.

CITY MULTI will transform the way you think about HVAC. Energize yourself at transforminghvac.com

MITSUBISHI ELECTRIC
HVAC for HUMANS

C TY MULT®

The transformation has begun.™

SVB
SUN VALLEY BRONZE
Innovators of Fine Solid Bronze Architectural Hardware
866.788.3631 toll free
www.svbronze.com

CIRCLE 02 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

ARCHITECTURAL
RECORD

EDITOR IN CHIEF Robert Ivy, FAIA, *rivy@mcgraw-hill.com*
MANAGING EDITOR Beth Broome, *elisabeth_broome@mcgraw-hill.com*
DESIGN DIRECTOR Anna Egger-Schlesinger, *schlesin@mcgraw-hill.com*

DEPUTY EDITORS Clifford A. Pearson, *pearsonc@mcgraw-hill.com*
Suzanne Stephens, *suzanne_stephens@mcgraw-hill.com*
Charles Linn, FAIA, Profession and Industry, *linnc@mcgraw-hill.com*

SENIOR EDITORS Sarah Amelar, *sarah_amelar@mcgraw-hill.com*
Jane F. Kolleeny, *jane_kolleeny@mcgraw-hill.com*
Joann Gonchar, AIA, *joann_gonchar@mcgraw-hill.com*
Russell Fortmeyer, *russell_fortmeyer@mcgraw-hill.com*

PRODUCTS EDITOR Rita Catinella Orrell, *rita_catinella@mcgraw-hill.com*
NEWS EDITOR James Murdock, *james_murdock@mcgraw-hill.com*

DEPUTY ART DIRECTOR Kristofer E. Rabasca, *kris_rabasca@mcgraw-hill.com*
ASSOCIATE ART DIRECTOR Encarnita Rivera, *encarnita_rivera@mcgraw-hill.com*
ILLUSTRATOR I-ni Chen

PRODUCTION MANAGER Juan Ramos, *juan_ramos@mcgraw-hill.com*
COPY EDITOR Leslie Yudell, *leslie_yudell@mcgraw-hill.com*

EDITORIAL SUPPORT Linda Ransey, *linda_ransey@mcgraw-hill.com*
Monique Francis, *monique_francis@mcgraw-hill.com*
EDITORIAL ASSISTANTS Danielle Rago, *danielle_rago@mcgraw-hill.com*
David Sadighian, *david_sadighian@mcgraw-hill.com*
Jenna McKnight, *jenna_mcknight@mcgraw-hill.com*

CONTRIBUTING EDITORS Raul Barreneche, Robert Campbell, FAIA, Andrea Oppenheimer Dean, David Dillon, Lisa Findley, Sara Hart, Blair Kamin, Nancy Levinson, Jayne Merkel, Robert Murray, Andrew Pressman, FAIA, Nancy B. Solomon, AIA, Michael Sorkin, Michael Speaks, Ingrid Spencer

SPECIAL INTERNATIONAL CORRESPONDENT Naomi R. Pollock, AIA
INTERNATIONAL CORRESPONDENTS David Cohn, Claire Downey, Tracy Metz

WEB DESIGN Susannah Shepherd, *susannah_shepherd@mcgraw-hill.com*
WEB PRODUCTION Laurie Meisel, *laurie_meisel@mcgraw-hill.com*

MCGRAW-HILL CONSTRUCTION MEDIA

VICE PRESIDENT, GROUP PUBLISHER James H. McGraw, IV
VICE PRESIDENT, INTEGRATED MEDIA Laura Viscusi
DIRECTOR, MARKETING COMMUNICATIONS Deborah Smikle-Davis
SENIOR DIRECTOR, ONLINE Dora Chomiak
DIRECTOR, ACCOUNT & MEDIA SERVICES Brenda Griffin
DIRECTOR, FINANCIAL OPERATIONS Ike Chong

NEWS DIRECTOR Heather Hatfield
GROUP PRODUCTS EDITOR Rita Catinella Orrell
WEB DESIGN DIRECTOR Susannah Shepherd

VICE PRESIDENT, MEDIA SALES Paul Bonington
VICE PRESIDENT, CIRCULATION Maurice Persiani
VICE PRESIDENT, CUSTOM PUBLICATIONS Mark Kelly
DIRECTOR, CREATIVE SERVICES Susan Valentini
ASSISTANT, MEDIA DEPARTMENT Pina Del Genio

EDITORIAL DIRECTOR, DIGITAL MEDIA Bryant Rousseau
GROUP DESIGN DIRECTOR Anna Egger-Schlesinger
VICE PRESIDENT, EDITORIAL DIRECTOR Robert Ivy, FAIA

MCGRAW-HILL CONSTRUCTION

PRESIDENT Norbert W. Young, FAIA
SENIOR VICE PRESIDENT Howard Mager
VICE PRESIDENT, CONTENT & PRODUCTION Tim Ryan
SENIOR DIRECTOR, FINANCE Nilo Ramos

VICE PRESIDENT, MARKETING & PRODUCT DEVEL. Potoula Chresomales
VICE PRESIDENT, ANALYTICS & ALLIANCES Harvey Bernstein
VICE PRESIDENT, TECHNOLOGY John P. Banks

ARCHITECTURAL RECORD: (ISSN 0003-858X) September 2007. Vol. 195, No. 9. Published monthly by The McGraw-Hill Companies, 1221 Avenue of the Americas, New York, N.Y. 10020. Periodicals postage paid at New York, N.Y. and additional mailing offices. Canada Post International Publications Mail Product Sales Agreement No. 40012501. Return undeliverable Canadian addresses to: DPGM Ltd., 2-7496 Bath Road, Mississauga, ON L4T 1L2. Email: arhcustserv@cdsfulfillment.com. Registered for GST as The McGraw-Hill Companies. GST No. R123075673. **Postmaster:** *Please send address changes to* ARCHITECTURAL RECORD, Fulfillment Manager, P.O. Box 5732, Harlan, IA 51593. **SUBSCRIPTION**: Rates are as follows: U.S. and Possessions $70.30; Canada and Mexico $79 (payment in U.S. currency, GST included); outside North America $199 (air freight delivery). Single copy price $9.95; for foreign $11. Subscriber Services: 877/876-8093 (U.S. only); 515/237-3681 (outside the U.S.); fax: 712/755-7423. **SUBMISSIONS**: Every effort will be made to return material submitted for possible publication (if accompanied by stamped, self-addressed envelope), but the editors and the corporation will not be responsible for loss or damage. **SUBSCRIPTION LIST USAGE**: Advertisers may use our list to mail information to readers. To be excluded from such mailings, send a request to ARCHITECTURAL RECORD, Mailing List Manager, P.O. Box 555, Hightstown, N.J. 08520. **OFFICERS OF THE MCGRAW-HILL COMPANIES**: *Chairman, President and Chief Executive Officer:* Harold McGraw III. *Executive Vice President and Chief Financial Officer:* Robert J. Bahash. *Executive Vice President, Human Resources:* David L. Murphy. *Senior Vice President and General Counsel:* Kenneth M. Vittor. *Principal Operating Executives:* Kathleen A Corbet, *President, Standard & Poors;* Henry Hirschberg, *President, McGraw-Hill Education;* Glenn S. Goldberg, *President, McGraw-Hill Information and Media Services.* **COPYRIGHT AND REPRINTING**: Title ® reg. in U.S. Patent Office. Copyright © 2007 by The McGraw-Hill Companies. All rights reserved. Where necessary, permission is granted by the copyright owner for libraries and others registered with the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, Mass. 01923. To photocopy any article herein for personal or internal reference use only for the base fee of $1.80 per copy of the article plus ten cents per page, send payment to CCC, ISSN 0003-858X. Copying for other than personal use or internal reference is prohibited without prior written permission. Write or fax requests (no telephone requests) to Copyright Permission Desk, ARCHITECTURAL RECORD, Two Penn Plaza, New York, N.Y. 10121-2298; fax 212/904-4256. For reprints call 800/360-5549 X 129 or e-mail architecturalrecord@reprintbuyer.com. Information has been obtained by The McGraw-Hill Companies from sources believed to be reliable. However, because of the possibility of human or mechanical error by our sources, The McGraw-Hill Companies or ARCHITECTURAL RECORD does not guarantee the accuracy, adequacy, or completeness of any information and is not responsible for any errors or omissions therein or for the results to be obtained from the use of such information of for any damages resulting there from.

EDITORIAL OFFICES: 212/904-2594. Editorial fax: 212/904-4256. Email: *rivy@mcgraw-hill.com*. Two Penn Plaza, New York, N.Y. 10121-2298. **WEB SITE**: architecturalrecord.com.

McGraw_Hill CONSTRUCTION

The McGraw·Hill Companies

PRINTED IN USA

TELL FIRE WHERE IT CAN GO.

(AND WHERE IT CAN'T)

Fire-rated glass has one main job: keeping fire in its place. You want to contain it, to prevent the flames and deadly smoke from spreading. So turn to FireLite® from Technical Glass Products. Architects and glaziers around the world depend on the FireLite name for:

- **Clear, wireless ceramic**
- **Fire ratings up to 3 hours**
- **High impact safety ratings**
- **Fire protection on both sides of the glass**
- **Complete code compliance, including the required hose stream test**

The most trusted name in the industry, Firelite is the #1 alternative to traditional wired glass. You can count on TGP for all of your fire-rated glazing needs.

Visit our newly updated web site

fireglass.com

800.426.0279

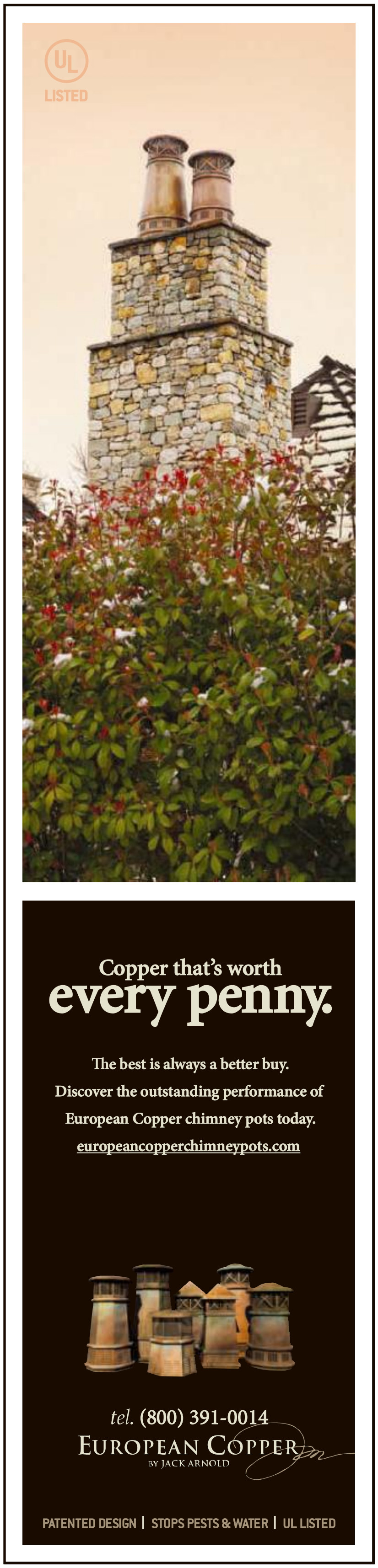
© 2007 Technical Glass Products. FireLite is a registered trademark of Nippon Electric Glass Co., Ltd. Technical Glass Products and One Source. Many Solutions. are registered trademarks of Technical Glass Products.

FireLite® Family of Products

FireLite® FireLite® IGU FireLite® NT FireLite Plus®

CIRCLE 03 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TGP FIRE RATED
one source. many solutions.®



Copper that's worth
every penny.

The best is always a better buy.
Discover the outstanding performance of
European Copper chimney pots today.
europeancopperchimneypots.com

tel. (800) 391-0014
EUROPEAN COPPER
BY JACK ARNOLD

PATENTED DESIGN | STOPS PESTS & WATER | UL LISTED

CIRCLE 04 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

ARCHITECTURAL RECORD

VICE PRESIDENT & PUBLISHER Laura Viscusi, *laura_viscusi@mcgraw-hill.com*
VICE PRESIDENT, MEDIA SALES Paul Bonington, *paul_bonington@mcgraw-hill.com*

DIRECTOR, MARKETING COMMUNICATIONS Deborah Smikle-Davis, *deborah_smikle-davis@mcgraw-hill.com*
VICE PRESIDENT, CIRCULATION Maurice Persiani, *maurice_persiani@mcgraw-hill.com*
DIRECTOR, CIRCULATION Brian McGann, *brian_mcgann@mcgraw-hill.com*

DIRECTOR, CREATIVE SERVICES Susan Valentini, *susan_valentini@mcgraw-hill.com*
PRODUCTION MANAGER Stephen R. Weiss, *stephen_weiss @mcgraw-hill.com*
ACCOUNT SERVICES, CONTINUING ED. Robyn Feller, *robyn_feller@mcgraw-hill.com*
DESIGN SERVICES Angela Haliski, *angela_haliski@mcgraw-hill.com*
Matthew Healy, *matthew_healy@mcgraw-hill.com*
Hector Gonzalez, *hector_gonzalez@mcgraw-hill.com*

DIRECTOR, SALES, PRODUCT NEWS Janet McLiverty, *janet_mcliverty@mcgraw-hill.com*

DIRECTOR, FINANCIAL OPERATIONS Ike Chong, *ike_chong@mcgraw-hill.com,*
BUSINESS MANAGER Tom Maley, *tom_maley@mcgraw-hill.com*

ASSISTANT, MEDIA DEPARTMENT Pina Del Genio, *pina_delgenio@mcgraw-hill.com*

ADVERTISING SALES

BUILDING PRODUCTS

NORTHEAST: (Connecticut, Delaware, Massachusetts, Maine, New Hampshire, New York, New Jersey, Rhode Island, Vermont, Eastern PA)
Joseph Sosnowski - phone: (610) 278-7829 Fax: (610) 278-0936 Email: *joseph_sosnowski@mcgraw-hill.com*

SOUTHEAST: (District of Columbia, Florida, Georgia, Kentucky, Maryland, North Carolina, South Carolina, Tennessee, Virginia, West Virginia, Western PA)
Susan Shepherd - Phone: (859) 233-4332 Fax: (404) 252-4056 Email: *susan_shepherd@mcgraw-hill.com*

MIDWEST: (Ohio, Illinois, Indiana, Kansas, Michigan, Nebraska, North Dakota, South Dakota, Wisconsin, Eastern Canada)
Lisa Nelson - phone: (312) 233-7402 Fax: (312) 233-7403 Email: *lisa_nelson@mcgraw-hill.com*

SOUTHWEST/CENTRAL: (Alabama, Arkansas, Iowa, Louisiana, Minnesota, Missouri, Mississippi, Oklahoma, Texas)
Bret Ronk - phone: (972) 437-7877 Fax: (972) 437-7876 Email: *bret_ronk@mcgraw-hill.com*

NORTHWEST: (Alaska, Idaho, Oregon, Washington, Utah, Montana, Western Canada)
Bill Madden - phone: (503) 224-3799 Fax: (503) 224-3899 Email: *bill_madden@mcgraw-hill.com*

ASSOCIATIONS: Charles Fagan - phone: (212) 904-2547 Fax: (312) 233-7488 Email: charles_fagan@mcgraw-hill.com

TECHNOLOGY: Mark Glasner - phone: (415) 357-8191 Fax: (415) 357- 8005 Email: mark_glasner@mcgraw-hill.com

WORKFORCE/RECRUITMENT: Gilda Falso - phone: (212) 904-2422 Fax: (212) 904-2074 Email: gilda_falso@mcgraw-hill.com, Diane Soister - phone: (212) 904-2021 Fax: (212) 904-2074 Email: diane_soister@mcgraw-hill.com

PRODUCT NEWS SPOTLIGHT: Deidre Allen, phone: (609) 426-7738 fax: (609) 426-7136 Email: *deidre_allen@mcgraw-hill.com* Kameesha Saunders, phone: (609) 426-7703 Fax: 609-426-7136 Email: *kameesha_saunders@mcgraw-hill.com*

INTERNATIONAL

GERMANY: Martin Drueke - phone: (49) 202-27169-12 Fax: (49) 202-27169-20 Email: *drueke@intermediapartners.com*
ITALY: Ferruccio Silvera - phone: (39) 022-846716 Fax: (39) 022-893849 Email: *ferruccio@silvera.it*
JAPAN: Katsuhiro Ishii - phone: (03) 5691-3335 Fax: (03) 5691-3336 Email: *amkatsu@dream.com*
KOREA: Young-Seoh Chin - phone: (822) 481-3411/3 Fax: (822) 481-3414

WEB SITE: architecturalrecord.com. **ADVERTISING:** Pina Del Genio: 212/904-6791, *AR.advertising@mcgraw-hill.com.*

SUBSCRIBER SERVICE: 877/876-8093 (U.S. only). 515/237-3681 (outside the U.S.). Subscriber fax: 712/755-7423. E-mail: *arhcustserv@cdsfulfillment.com.* If the Post Office alerts us that your magazine is undeliverable, we have no further obligation unless we receive a corrected address within one year. AIA members must contact the AIA for address changes on their subscriptions. 800/242-3837. E-mail: *memberservices@aia.org.* **INQUIRIES AND SUBMISSIONS:** Letters, Robert Ivy; Practice, Charles Linn; Books, Clifford Pearson; Record Houses and Interiors, Sarah Amelar; Products, Rita Catinella Orrell; Lighting and Interiors, William Weathersby, Jr.; Residential, Jane F. Kolleeny; Architectural Technology, Joann Gonchar and Russell Fortmeyer; Web Editorial, Ingrid Spencer.

REPRINT: *architecturalrecord@reprintbuyer.com.* **BACK ISSUES:** 212/904-4653 *phyllis_moody@mcgraw-hill.com*

THE AMERICAN INSTITUTE OF ARCHITECTS 2007 BOARD OF DIRECTORS • OFFICERS: RK Stewart, FAIA, President; Marshall E. Purnell, FAIA, First Vice President; Michael Broshar, FAIA, Vice President; Miguel A. Rodriguez, AIA, Vice President; George H. Miller, FAIA, Vice President; Norman Strong, FAIA, Vice President; David R. Proffitt, AIA, Secretary; Tommy Neal Cowan, FAIA, Treasurer; Greg Staskiewicz, Assoc. AIA, Associate Representative to the AIA Executive Committee; David Crawford, CACE Representative to the AIA Executive Committee; Christine W. McEntee, Executive Vice President/CEO. • **REGIONAL DIRECTORS:** Dennis A. Andrejko, AIA; Peter J. Arsenault, AIA, NCARB, LEED AP; Michel C. Ashe, AIA; Jonathan Bahe, Assoc. AIA; Donald R. Barsness, AIA; David J. Brotman, FAIA; Stephan Castellanos, FAIA; Anthony J. Costello, FAIA; James Determan Jr., AIA; James H. Eley, FAIA; Jonathan L. Fischel, AIA; Marion Fowlkes, FAIA; Maureen A. Guttman, AIA; Walter J. Hainsfurther, AIA; Richard Jackson, MD, MPH; Mickey Jacob, AIA; Diane Van Buren Jones; Leevi Kiil, FAIA; Peter G. Kuttner, FAIA; Anne Laird-Blanton, AIA; Evelyn Lee, Assoc. AIA, LEED AP; Michael Lischer, AIA; Clark Llewellyn, AIA; Stephen K. Loos, AIA; Marvin J. Malecha, FAIA; Clark D. Manus, FAIA; John Maudlin-Jeronimo, FAIA; Linda McCracken-Hunt, AIA; Robin L. Murray, AIA, PP; Thompson Nelson, FAIA; Celeste A. Novak, AIA; John A. Padilla, AIA; Jeffery Potter, AIA; John W. Rogers, AIA, ACHA; Ken Ross, FAIA; Bonnie Staiger; William J. Stanley III, FAIA; James M. Suehiro, AIA, LEED AP; Leslie J. Thomas, AIA; Edward J. Vidlak, AIA; Enrique Woodroffe, FAIA. • **AIA MANAGEMENT COUNCIL:** Christine W. McEntee, Executive Vice President/CEO; Beth Bush, Vice President, Member Value and Communications; Helene Combs Dreiling, Hon. SDA, FAIA, Vice President, Strategic Initiatives & Relationships; Michael P. Hoagland, SPHR, CAE, Vice President, Human Resources; Richard J. James, CPA, Chief Financial Officer & Vice President, Administration; Paul T. Mendelsohn, Vice President, Government and Community Relations; Barb Sido, CAE, Vice President, Knowledge & Professional Practice; Jay A. Stephens, Esq., General Counsel & Vice President; Elizabeth Stewart, Esq., Vice President, Strategy & Business Development; David Downey, CAE, Assoc. AIA, Managing Director, Communities by Design; James Gatsch, FAIA, General Manager, Contract Documents; Suzanne Harness, Esq., AIA, Managing Director and Counsel, Contract Documents; Maan Hashem, Managing Director, Software Products and Services; Richard L. Hayes, PhD, RAIC, CAE, AIA, Managing Director, Knowledge Resources; Christine M. Klein, Managing Director, Meetings; Carol Madden, Managing Director, Membership Services; Philip D. O'Neal, Managing Director, Information Technology; C.D. Pangallo, EdD, Managing Director, Continuing Education; Terence J. Poltrack, Managing Director, Communications; Andrea S. Rutledge, SDA, CAE, Managing Director, Alliances; Phil Simon, Managing Director, Marketing and Promotion; Terri Stewart, Managing Director, Professional Practice.

McGraw_Hill CONSTRUCTION

ABC MPA

The McGraw·Hill Companies

PRINTED IN USA

It will change the way you look at the Viking kitchen.

The Designer Series offers the complete Viking kitchen in a sleek new style.

VIKING
DESIGNER

1-888-845-4641 or vikingrange.com

CIRCLE 05 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

The playground just got more interesting.

Now, enjoy more design options than ever. Like 19 clad colors at standard pricing, seven new casings, four new subsills—all in cladding exceeding AAMA 2605-05 specification. In addition, we have architectural service reps ready for consultation. What will you create with your new freedom? Visit marvin.com/clad for our free clad brochure or call 1-800-236-9690.

MARVIN®
Windows and Doors
Built around you.™

CIRCLE 06 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

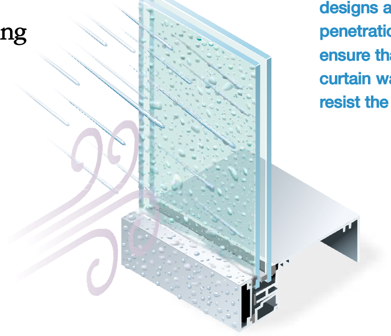
©2007 Marvin Windows and Doors. All rights reserved. ®Registered trademark of Marvin Windows and Doors.

watertight

Rain and Storm-resistant Curtain Wall systems from Oldcastle Glass®.

Keeping rain out of buildings while allowing natural ventilation and sunlight in has always presented a challenge to building designers. As the only curtain wall manufacturer that can also custom-manufacture architectural glass, we have the ability to **engineer and test** our glass and curtain wall together as one seamless solution. We call it Oldcastle Glass® Envelope™. It's a commitment to providing **forward-thinking building envelope solutions.** And if the glass and metal are engineered together, the water stays on the outside of the building where it belongs. To find out more about what Oldcastle Glass® is doing to create better buildings, call **1-866-OLDCASTLE** (653-2278) or visit our new website at **www.oldcastleglass.com**.

The Colorado Convention Center designed by Fentress Architects. Curtain Wall custom-engineered by Oldcastle Glass®.

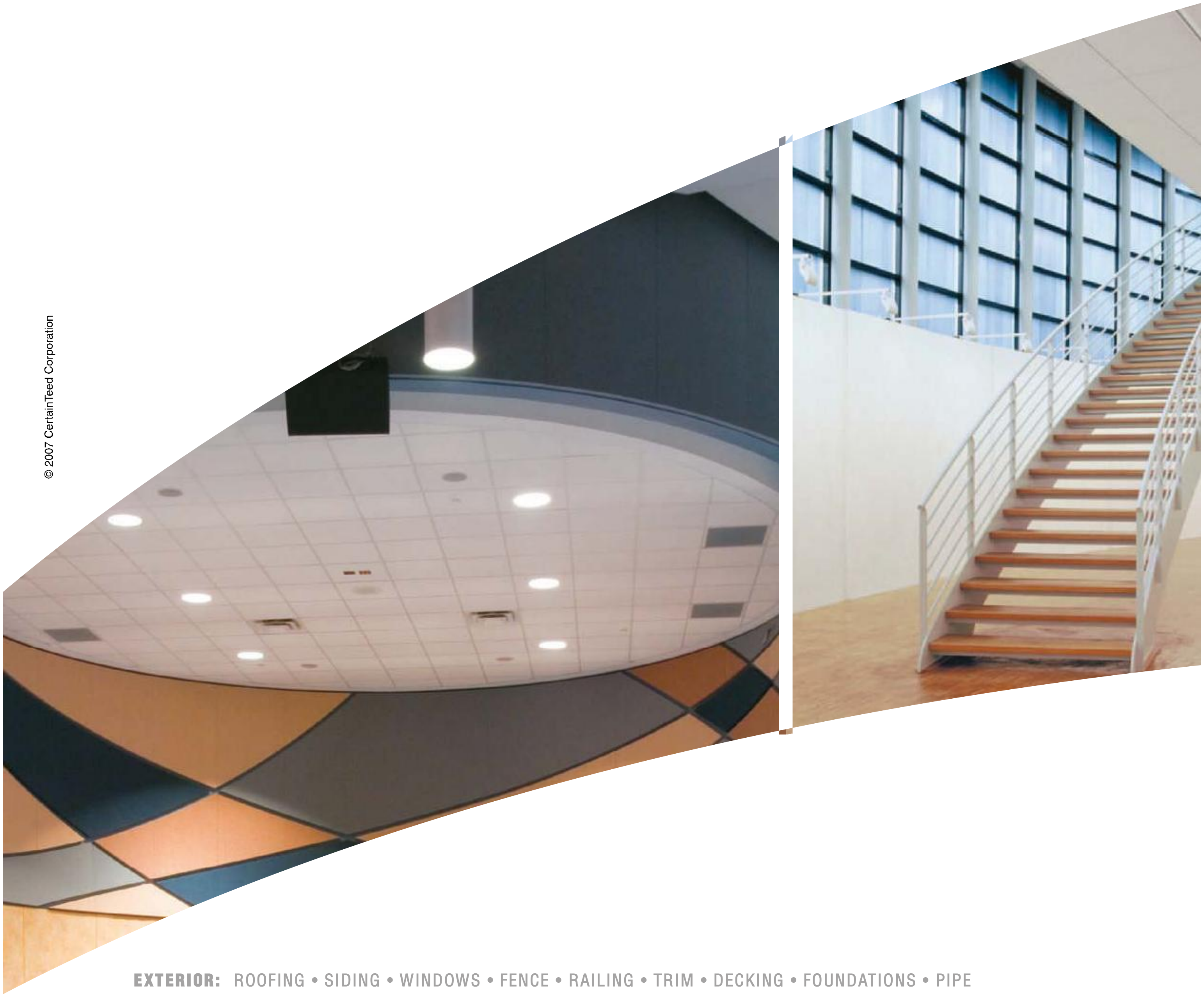


Our rain-screen designs and water penetration testing ensure that your curtain wall design will resist the elements.

Oldcastle Glass® *Where glass becomes architecture™*

CIRCLE 07 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Build. Design.

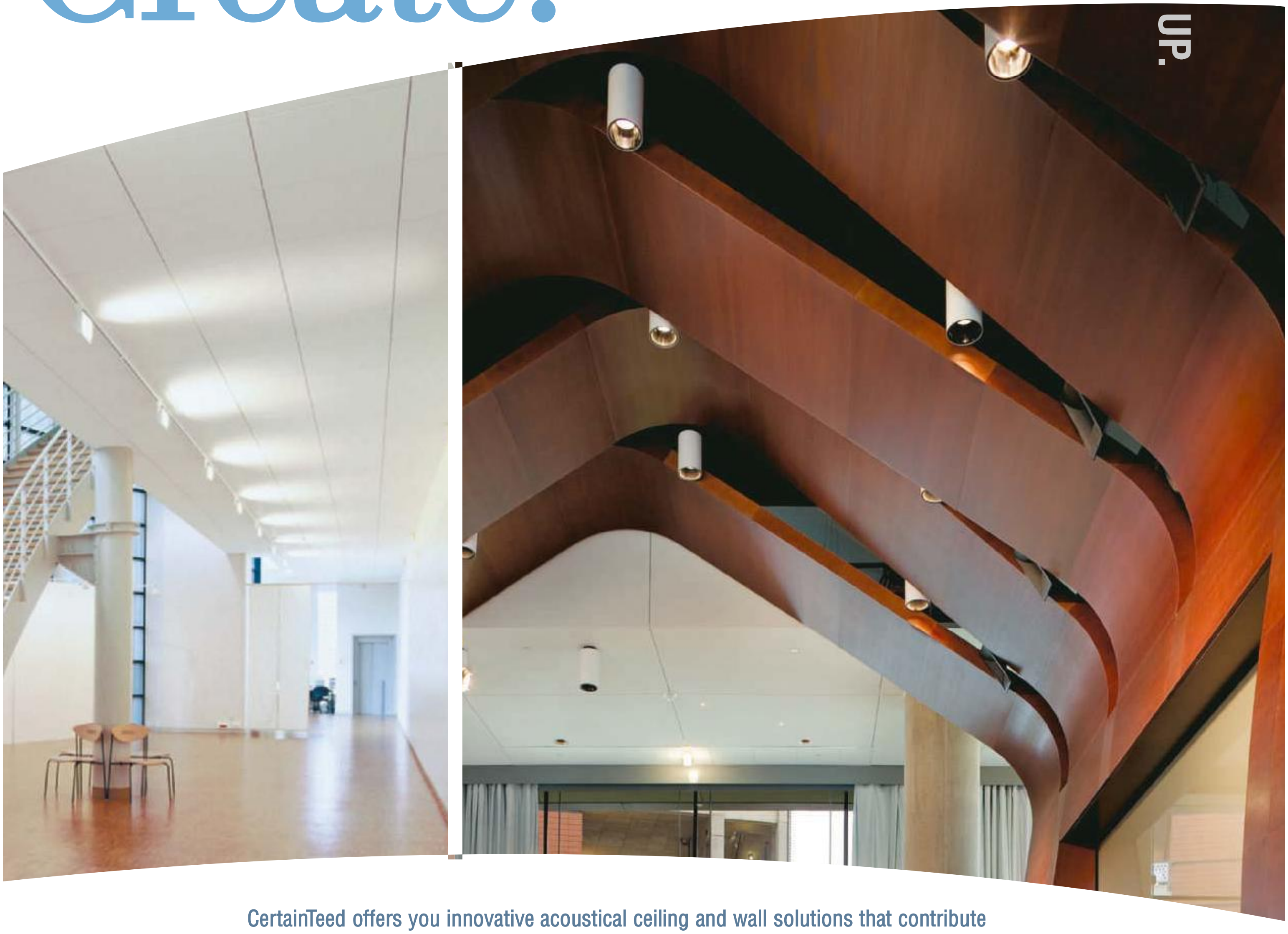


© 2007 CertainTeed Corporation

EXTERIOR: ROOFING • SIDING • WINDOWS • FENCE • RAILING • TRIM • DECKING • FOUNDATIONS • PIPE
INTERIOR: INSULATION • WALLS • CEILINGS

Create.

THINKING UP.



CertainTeed offers you innovative acoustical ceiling and wall solutions that contribute to a superior environment for the eye, the ear and the mind.

Whether you're meeting fundamental performance needs, balancing function and design, or pushing the boundaries of creativity, we'll help you achieve the goal of making any space look, sound, work—and feel—better.

800-233-8990 certainteed.com

CertainTeed

Quality made certain. Satisfaction guaranteed.™

CIRCLE 08 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

In Memoriam

1925 — 2007

Sylvan R. Shemitz, FIES

lighting designer,
entrepreneur, inventor,
educator, writer

From the entire SRSDI family

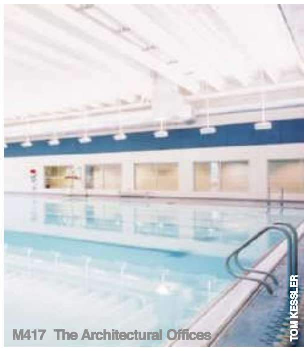
Sy Shemitz *… there is no equal*

elliptipar™
…there is no equal™

Tambient®
lighting at work™

CIRCLE 09 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Versatility


M417 The Architectural Offices

TOM KESSLER

T204 SmithGroup

JUSTIN MACONOCHIE

M152 Brandston Partnership, Inc.

AKER/ZVONKOVIC

Reliability

M412 Gresham Smith

CHRIS CUNNINGHAM

F115 Fisher Marantz Stone

ROB PEP

M152/M454/H454 HOK

ROBERT PETTIS

Durability

F502 Fletcher Thompson

BILL WELCH

T104 Walter Anderson

©2002, MLEWISKENNEDY.COM

M156 LMN Architects

ED LACASSE

From the innovators in asymmetric lighting … energy efficient,
high performance luminaires to enhance any architectural project.

elliptipar™
…there is no equal™

A division of Sylvan R. Shemitz Designs, Inc.
203.931.4455
www.elliptipar.com

Made in West Haven, Connecticut since 1976 © **elliptipar** 2007

CIRCLE 10 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

SOLARBAN
z50
Solar Control Low-E Glass

Solarban® z50 proves you don't have to be green to be green.

New Solarban z50 solar control glass is a stylish, steely blue-gray glass that blocks up to 70% of total solar energy. That gives it a light to solar heat gain (LSG) ratio that's up to 30% better than that of competitive products. And that makes Solarban z50 a worthy addition to the Solarban family of solar control glass products – and a colorful step forward for sustainable design. For your free energy analysis white paper and glass sample, or to learn more about EcoLogical Building Solutions from PPG, call the PPG IdeaScapes hotline: 1-888-PPG-IDEA. Or visit www.ppgideascapes.com.

CIRCLE 11 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

PPG IdeaScapes™
Glass • Coatings • Paint

Solarban, IdeaScapes, PPG and the PPG logo are trademarks owned by PPG Industries, Inc.

PPG Industries, Inc., Glass Technology Center, Guys Run Road, Pittsburgh, PA 15238-1305 www.ppgideascapes.com

ARCHITECTURAL
RECORD

09.2007

On the Cover: *Jin's Global Standard, by Ryuji Nakamura. Photograph by Daici Ano.*
Right: *Glacier Loft, by Gus Wustemann. Photograph by Bruno Helbling.*

News

39 **KPF design for 5 WTC sparks new controversy**
42 **SOM, Foster, KPF to remake Penn Station**
46 **George Yu dies at 43**
48 **Searching for a non-Architect for the Capitol?**

Departments

29 **Editorial: Each Side of the Bridge**
31 **Letters**
59 **Archrecord2: For the Emerging Architect**
63 **Critique: Keeping an eye on Big Brother** *by Michael Sorkin*
69 **Commentary: Inside good design** *by Victoria Newhouse*
73 **Books: Surveying the world of interiors**
79 **Practice Matters: Good leadership** *by Andrew Pressman, AIA*
83 **Exhibitions: Serra at MoMA** *by Sara Hart*
89 **Trade Show Review: NeoCon** *by Eileen Ragsdale*
93 **Snapshot: Pink Bar** *by Beth Broome*
199 **Dates & Events**
220 **Backpage: Architect-designed pens** *by Rita Catinella Orrell*

Features

102 **Spatial Mutations** *by John Gendall*
Installations dramatically transmute the spaces that contain them.

Building Types Study 873

111 **Record Interiors 2007** *by Sarah Amelar*
112 **Jin's Global Standard, *Japan*** *by Naomi Pollock*
Ryuji Nakamura Architects
118 **Honda Advanced Design Center, *California*** *by Sarah Amelar*
George Yu Architects
122 **Ginzan Onsen Fujiya, *Japan*** *by Clifford A. Pearson*
Kengo Kuma & Associates
128 **Glacier Loft, *Switzerland*** *by Diana Lind*
Gus Wustemann with Pinar Gönül
132 **Our Lady of Novy Dvur, *Czech Republic*** *by Joann Gonchar, AIA*
John Pawson
138 **Alessi Flagship Store, *New York City*** *by Suzanne Stephens*
Asymptote Architecture

Architectural Technology

149 **Introduction** *by Russell Fortmeyer*
151 **The New Age of High-Tech Hospitals** *by Russell Fortmeyer*
Are architects prepared for the changing needs of health-care clients?
160 **For Smart Materials, Change Is Good** *by Michelle Addington*
How unconventional materials can transform architecture.
164 **Technicalities: Prague stairwell** *by David Sokol*

Products

189 **Contract Carpeting** *by Rita Catinella Orrell*
192 **ICFF Review** *by Rita Catinella Orrell*
195 **Product Resources** *by Jenna McKnight*

212 **Reader Service**

Expanded coverage of Projects, Building Types Studies, and Web-only special features can be found at ***architecturalrecord.com***.

Online architecturalrecord.com

09.2007

We invite you to explore architecturalrecord.com, which now offers a **new design** and **powerful tools** that allow you to interact with, and contribute to, the site as never before. You can comment on and rate projects, recommend articles, submit photos of your work, and create an industry profile.

building types study: record interiors

Interiors by designers and firms including Ryuji Nakamura (Our Lady of Novy Dvur, left), John Pawson, and Asymptote are featured in this year's Record Interiors, in print and online. The six featured spaces reveal an eye for drama with a delicate touch, characterized by a pale and nuanced palette. Online, find six more exciting interiors, including slide shows and portraits.

residential: house of the month

At 7,500 square feet, this home on a bluff with views of the skylines of both Minneapolis and St. Paul proves that generous spaces can be light, airy, and serene. Designed by Albertsson Hansen Architecture, the house's vernacular exterior and spare, spacious interior have a warmth its size belies.

archrecord2

On archrecord.com, see slide shows of the work of a young Parisian firm, Beckmann N'Thépé, whose fresh take on design (La Villette, left) is making waves despite the local leaning toward established firms. Also meet the winners of a competition that turns an insect epidemic into an opportunity to innovate. ONLINE: Is making a name among established architecture firms the biggest challenge for young architects? Respond at construction.com/community/forums.aspx.

continuing education

Get CE credits by reading editorial and sponsored articles online. This month, our editorial opportunity discusses hospital design and how technology, materials, and smart design can converge to make beautiful and functional places of healing (Sidra Medical Center by Pelli Clarke Pelli, left).

community

photo gallery

View more than a thousand images submitted by readers from all over the world in 10 categories, such as the student showcase (above). You can also send us your own photos at construction.com/community/gallerylist.aspx.

blogs

Off the Record: Written by the staff of RECORD and the magazine's team of experienced, award-winning editors, who offer their insightful, informal, opinionated takes on architecture-related trends, conferences, exhibitions, projects, and personalities.

forums

Your voice matters—and we have provided you with the ideal forum to express your ideas, opinions, suggestions, and gripes. Our discussion forums, which are open to all, include such topics as Green Building Projects, Virtual Design, Practice Matters, and a forum for younger architects. You can also suggest and create your own discussion threads.

comments

"I'm glad to see that architecture is finally coming alive in Harlem. The neighborhood is so unique and elegant, and now the architecture is truly going to reflect that uniqueness—bravo!"

and more ...

Images (counterclockwise from top right): Courtesy the designers (Mola Residence, by Nathalia Mussi, Rafael Hachiya, and Ana Novo); © Hisao Suzuki (Our Lady of Novy Dvur, by John Pawson); courtesy the architects (Mississippi River Bluff Home, by Albertsson Hansen Architecture); © A. Rinuccini (La Villette, by Beckmann N'Thépé); courtesy the architects (Sidra Medical and Research Center. by Pelli Clarke Pelli).

PEOPLE ARE TALKING

“There were many challenging decisions on 111 South Wacker, but selecting the curtain wall manufacturer wasn’t one of them.”

—James Goettsch, FAIA, Goettsch Partners

111 South Wacker by Goettsch Partners—Custom-Engineered Curtain Wall by Oldcastle Glass®

“When you are striving for innovation and quality, you need a willing team of collaborators throughout the process. Oldcastle Glass® has a profound understanding of that and assisted our team from design through construction,” added James Goettsch, Goettsch Partners. 111 South Wacker features 409,000 square feet of Oldcastle Glass® custom curtain wall. To learn more, call us at 1-866-OLDCASTLE (653-2278) or visit the new www.oldcastleglass.com.

Oldcastle Glass® *Where glass becomes architecture*™

CIRCLE 12 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Learn & Earn

Architectural Record Continuing Education

Page

169-173

New Elevator Technology: The Machine Room-Less Elevator

An energy-efficient, space-saving and high-performance elevator

By Karin Tetlow

Provided by

KONE

Courtesy of KONE Inc.

Page

177-185

The Fourth Source: Light-Emitting Diodes (LEDs) for General Illumination

By C.C. Sullivan

Provided by

KIM LIGHTING

prescolite

Courtesy of Belknap Photographic, Greenville, SC

Earn

Health Safety Welfare credits with Architectural Record!

Earn your required continuing education Learning Unit hours (LU's) by reading Architectural Record. This issue includes the continuing education articles featured on this page. These articles will each earn you one AIA/CES Learning Unit (HSW). Annually, AIA/CES accepts up to eight self-study Learning Units.

Just read the article and complete the short quiz to earn your credit. You can also access these and many other continuing education articles online at **construction.com/CE/**

Check out our new online Continuing Education Center at **construction.com/CE/**

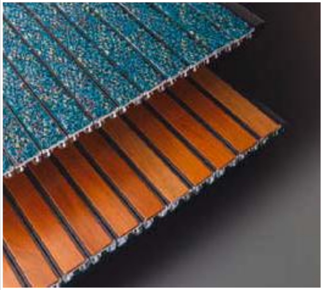
connecting people_projects_products

McGraw_Hill CONSTRUCTION Architectural Record

architecturalrecord.com

The McGraw·Hill Companies

Step into
the future
of entrance
flooring.



Finally a new way to look at entrance flooring. Pedisystems offers designers **three exciting new insert materials**, recycled rubber in 70 colorways, FSC Certified wood and any custom hard-backed carpet you specify. The future is now. To learn more call 1-800-621-3344, or visit www.c-sgroup.com.

C/S Pedisystems® Entrance Flooring

CIRCLE 13 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Imagine taking some of the most inspiring innovations in color across all fields of design, and cross-pollinating those concepts into your own creative vision.

That's what PPG *IdeaScapes* delivers.

In fact, PPG has more experience in creating and applying color on more materials and surfaces than any other company in the world. From architecture to automobiles and aircraft, from industrial design to consumer products, we offer the color expertise to unlock the full potential of your design vision by combining a true, global understanding of color integration for almost any surface imaginable.

You can experience all of this personally at the next PPG *ColorShare* Forum, where you'll meet the brightest color professionals from a variety of fields.

For more information about this groundbreaking conference, and to learn more about PPG's color capabilities, give us a call or visit us online. And get the buzz on how color can boost your creativity. No matter what field you're in.

Bringing everything in the field of Color
to your field of Design.

Experience one of our PPG *ColorShare* Forums.

Los Angeles	**January 31, 2007**
Atlanta	**March 2007**
Chicago	**April 2007**
New York City	**May 2007**
Dallas	**September 2007**
San Francisco	**October 2007**
Miami	**November 2007**
Los Angeles	**January 2008**

PPG IdeaScapes™
Glass • Coatings • Paint

CIRCLE 14 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

1-888-PPG-IDEA (774-4332) www.ppgideascapes.com

Pilkington **Eclipse Advantage™** Reflective Low-E Glass

There was a time when architects could choose glass by color alone. Then along came Low-E, solar heat gain considerations, and all the inherent problems and compromises of soft coats. Pilkington **Eclipse Advantage™** Glass, is the world's first pyrolytic reflective Low-E. An innovative Low-E glass that combines low emissivity with solar control, high visible light transmittance and glare control. For more information or glass samples, contact Pilkington at 800 221 0444, or visit www.pilkington.com.

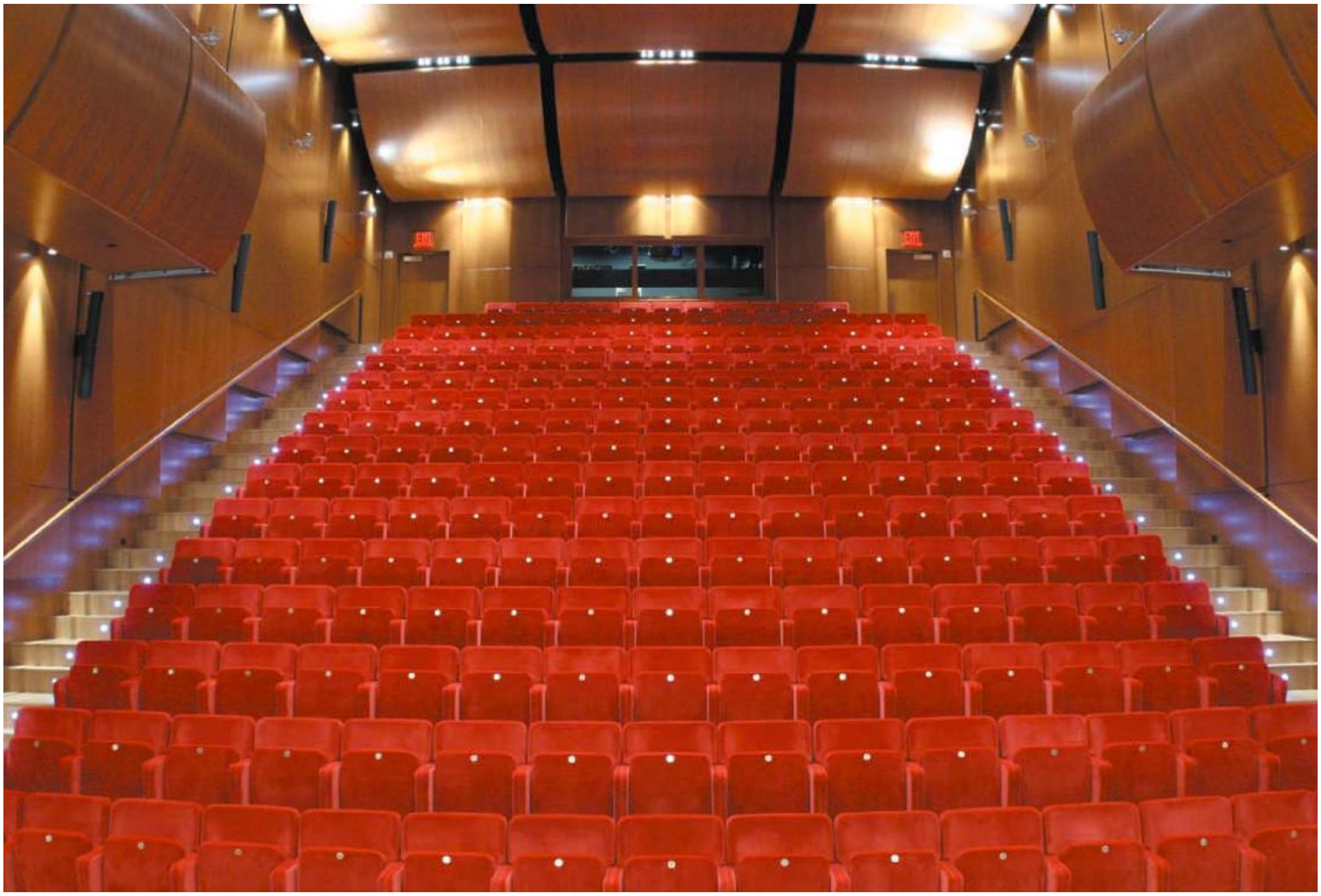
Pilkington Building Products North America
811 Madison Ave., P.O. Box 799 • Toledo, OH 43697-0799
Main Office Phone: 419 247 3731; Fax 419 247 4517
E-mail: building.products@us.pilkington.com • Website: www.pilkington.com

©2003 Pilkington. **Eclipse Advantage™** Glass, **Arctic Blue™** Glass and **EverGreen™** Glass are trademarks of Pilkington.

PILKINGTON

A member of NSG Group

CIRCLE 15 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



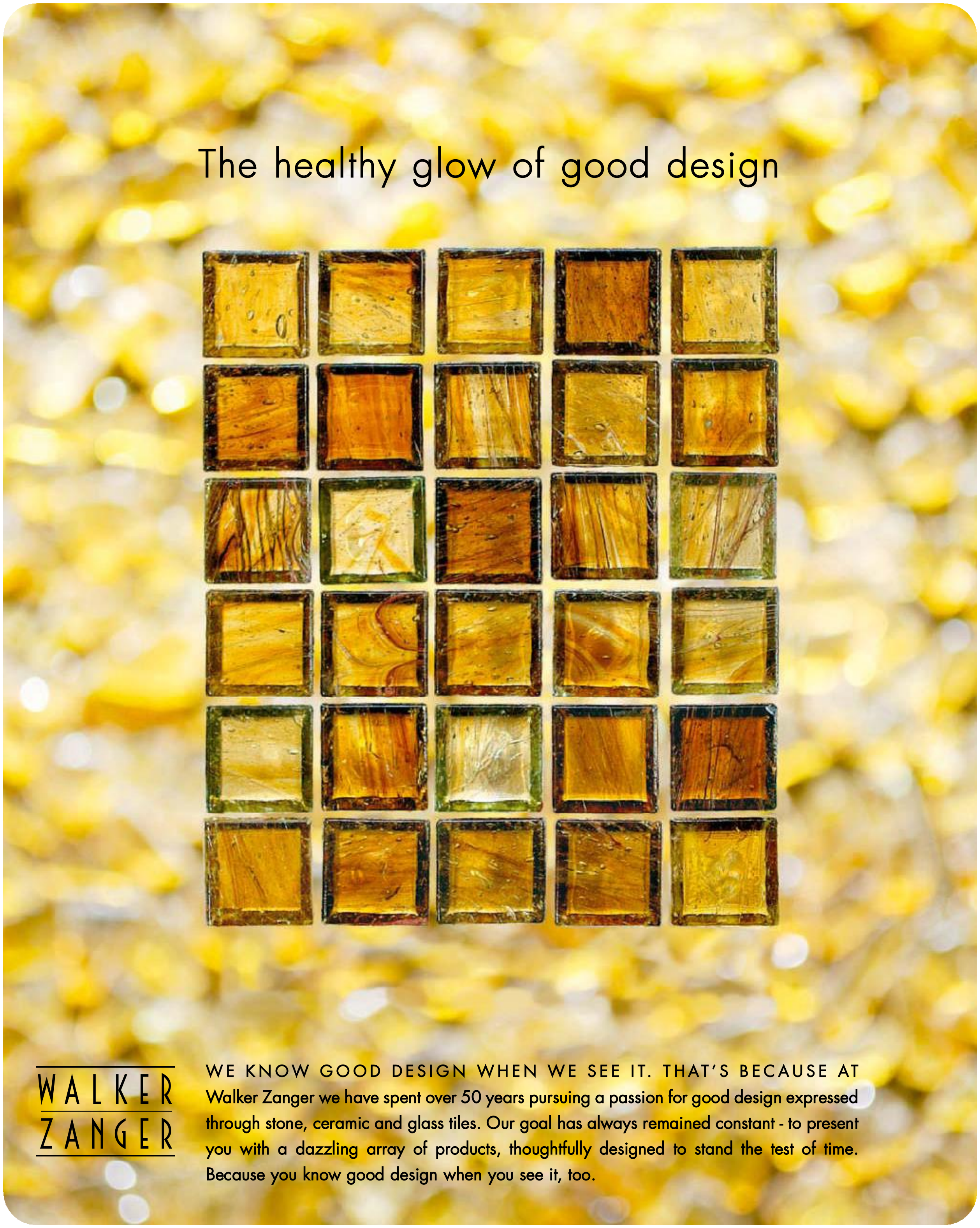
Morgan Library, New York - Project **Renzo Piano Building Workshop**
Model **RP 01** - Deisgn **Renzo Piano Building Workshop**

Poltrona Frau Contract can provide standard and custom variations for auditoriums, theatres, airports, museums, restaurants, hotels and offices

145 Wooster St. New York, NY ph. 212 777 7592 fax 212 777 8481 www.frauusa.com frauusa@frauusa.com

Poltrona Frau
Fondata nel 1912

CIRCLE 16 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



The healthy glow of good design

WALKER
ZANGER

WE KNOW GOOD DESIGN WHEN WE SEE IT. THAT'S BECAUSE AT Walker Zanger we have spent over 50 years pursuing a passion for good design expressed through stone, ceramic and glass tiles. Our goal has always remained constant - to present you with a dazzling array of products, thoughtfully designed to stand the test of time. Because you know good design when you see it, too.

PRODUCT SHOWN **MANTRA GLASS MOSAICS**™

CERAMIC TILE • STONE TILE & SLABS • MOSAICS • TERRA COTTA • GLASS TILE | 877.611.0199 | WWW.WALKERZANGER.COM

CIRCLE 17 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Have you ever actually talked to a doorknob? You quickly realize doorknobs aren't very responsive. Ask a doorknob if it can earn you any LEED® points. Its answer will always be — nothing. Ask the same question to a **VT CORE Distributor** and you'll get a laundry list of architectural wood doors that meet or **exceed all of your specifications.** You see, a VT CORE Distributor is the polar opposite of a doorknob. They're incredibly **knowledgeable** and provide products and services you can't find anywhere else. And with locations all over the country, VT CORE Distributors can **quickly respond** to any of your needs, making them your local source for everything 'door.' Need a couple more doors delivered ASAP? No problem. Need answers about specs and fire ratings? **You got it.** VT CORE Distributors are your partners in giving you the best **doors, frames and hardware** for all your project's openings. Whether you need stile & rail, 5-ply wood veneer, or high pressure decorative laminate doors, you can always count on unsurpassed workmanship and quality, together with **top-notch service** from a living, breathing person — not a doorknob.

CIRCLE 18 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

To find your local VT CORE Distributor visit our
website at www.vtindustries.com/vt/cdmap.pgm.
800.827.1615 EXT. 345

VT INDUSTRIES CORE Distributor

Vierti™ | experience a new dimension in lighting control

Vierti redefines the style and function found in today's lighting controls, with a sleek aesthetic and innovative technology.

- set the perfect light level with a single touch or slide of the finger anywhere along the LEDs
- customize Vierti by choosing from three different LED colors: blue, white, and green
- complete the design of a space with matching switches and coordinating accessories

To learn more about the product visit **www.lutron.com/vierti** and click on "request information" to have a brochure sent directly to you, or call 1.888.Lutron1.

LUTRON®

© 2007 Lutron Electronics Co., Inc.

CIRCLE 19 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

PHOTOGRAPHY: © ANDRÉ SOUROUJON

Each side of the bridge

Editorial

By Robert Ivy, FAIA

The early 21st century may be remembered as the time America began to crumble. While the assertion may lapse into hyperbole, the collapse of the I-35W Mississippi River Bridge at Minneapolis on August 1 focused our attention on the perilous condition of our structural underpinnings, and we found them weak. While the experts continue to evaluate exactly what went wrong in Minneapolis/St. Paul, this disaster follows in the wake of other spectacular failures in other cities.

Remember Boston in July 2006? We are only now fully sorting through the forensic evidence surrounding the malfunction of 20 ceiling anchors that dropped 10 precast-concrete panels weighing 26 tons into the Interstate 90 tunnel. Just this summer in New York, the streets have blown up (a steam pipe explosion at the intersection of Lexington Avenue and 41st Street on July 18) and the underground drowned (a deluge on August 8 virtually shut down Manhattan mass transit on a busy workday). Apocalypse Now, or are we fraying at the seams? Patricia Galloway, former president of the American Society of Civil Engineers (ASCE), writing about infrastructure on enr.com, wrote, "(Can we) assure those using our infrastructure that they are not risking their lives simply by using it?"

According to the ASCE, America's infrastructure requires a massive infusion of capital and energy. In 2005, for its Infrastructure Report Card, a sobering document, the nation's systems received a total grade of D+. The assessment cited the condition of the 590,750 bridges in the system (which they estimate would take $9.4 billion per year just to maintain "system conditions so costs do not rise.") Additionally, the report cited our battered flood control, which is operating outside "historic patterns"; power, which requires a "smart" grid to reallocate energy based on supply and demand; money for improved water treatment; and additional capacity for airports, straining under 4.3 percent annual growth. The full list included schools, highways, security, dams, waterways, recreation, rail, roads, and waste-management investments. The cost to fix what's broken or absent? The total tab hits the astronomical figure of $1.6 trillion—a surreal amount.

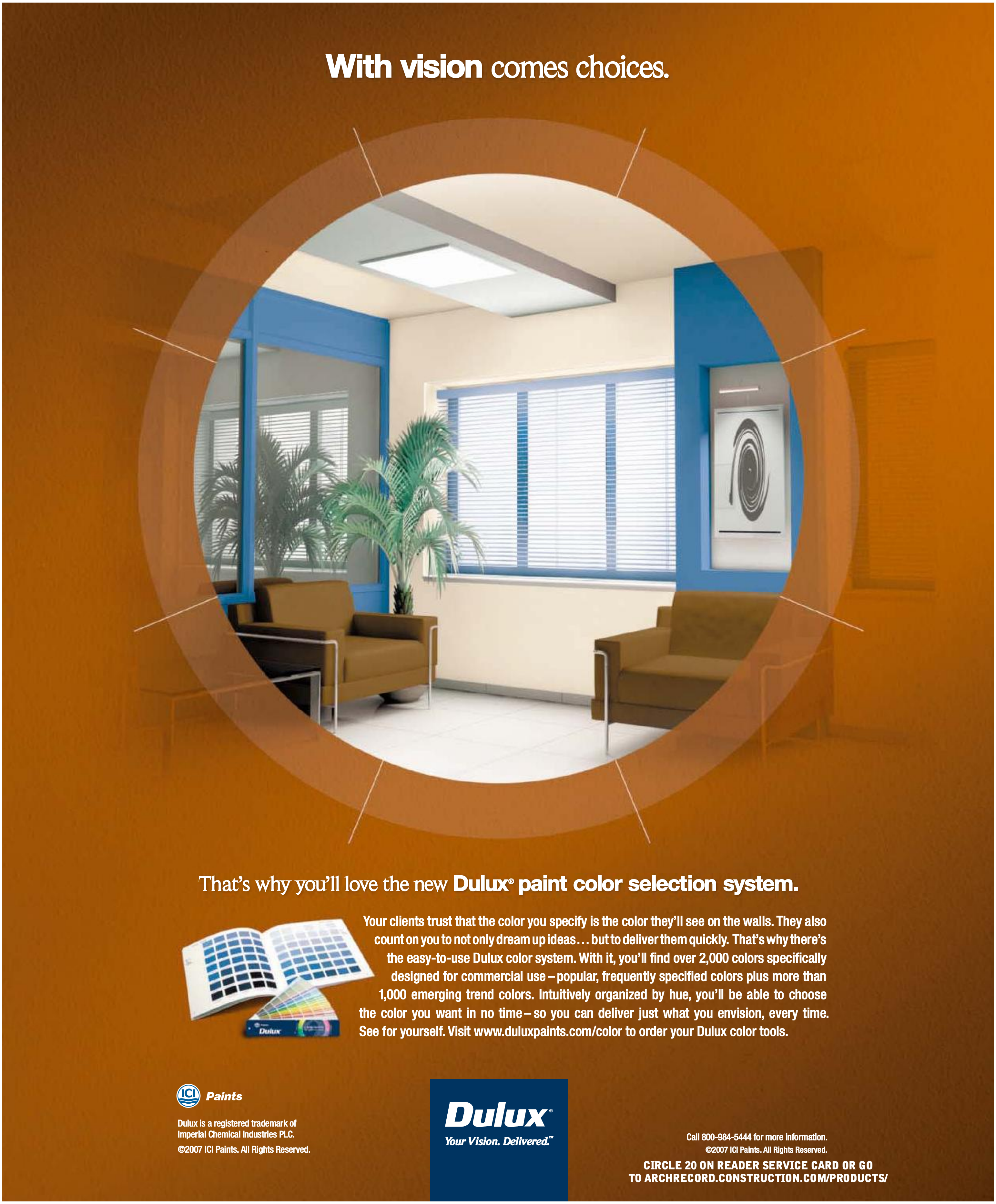
The problem of maintaining infrastructure lies in its visibility. With few exceptions, you cannot see the source of your drinking water, and you may not know the origins of your electrical power. Politicians recognize that voters rarely get excited about the services, so rarely tout improvements, preferring to champion new pork barrel projects, such as Alaska's Gravina Island Bridge project, the so-called, "Bridge to Nowhere." California offers one strong exception to the rule, where Governor Schwarzenegger has promoted multibillion dollar bond issues for schools, water resources, and flood protection that will aid California's inevitable growth.

If we lack political will, and the public does not recognize the severity of the crisis, then where do architects fit into this equation? While we may not control the outcome of engineering solutions, we can effectively shape the texture, experience, and fundamental programmatic elements of the built environment. Debra Smith, AIA, a planner employed by Kansas City, Missouri, acknowledges that we may have turned over much of the shape of our communities to engineers and transportation officials, but our roads and bridges "are designed for optimum efficiency, not necessarily for compatibility of adjacent land uses or the way communities look." She says architects must actively promote multiple access routes throughout an urban environment, not just multiple lanes of traffic, and that we can help encourage the planning for our cities and small towns to become places friendly for walking or biking. Uniquely, we think holistically and can champion communities that promote public health, not merely wide highways.

In some cases, our contributions to infrastructure shine. For the San Francisco-Oakland Bay Bridge replacement, one of this nation's largest, the team includes architect Donald MacDonald, who has made bridge design a critical subset of his practice. Many of our greatest successes professionally include avoidance. The stories of elevated highways, proposed and actual, that architects have helped the public to better understand and thus eliminate, includes the proposed Martin Luther King elevated parkway in Des Moines. A three-dimensional model clearly illustrated its detrimental scale to business leaders, who insisted it be dropped to an on-grade solution in 2003. Today, in Honolulu, architects are at the forefront of the opposition to raised light rail, which threatens to block the historic downtown from its unparalleled beachfront. The list goes on.

At the meta-level, architects are engaging with their communities as smart thinkers. If our nation's infrastructure requires attention, we can join with our allied professionals, including engineers and planners, and our own hometowns. Yes, we need updated highways, but not if they encourage sprawl. Yes, we need better bridges, but not necessarily more lanes delivering more people farther out into the countryside. Infrastructure continues to crumble and must be repaired, but ultimately, our concern equally spans the bridges and the communities linked together on each side.

Robert Ivy



With vision comes choices.

That's why you'll love the new **Dulux® paint color selection system.**

Your clients trust that the color you specify is the color they'll see on the walls. They also count on you to not only dream up ideas… but to deliver them quickly. That's why there's the easy-to-use Dulux color system. With it, you'll find over 2,000 colors specifically designed for commercial use – popular, frequently specified colors plus more than 1,000 emerging trend colors. Intuitively organized by hue, you'll be able to choose the color you want in no time – so you can deliver just what you envision, every time. See for yourself. Visit www.duluxpaints.com/color to order your Dulux color tools.

ICI Paints

Dulux is a registered trademark of
Imperial Chemical Industries PLC.

©2007 ICI Paints. All Rights Reserved.

Dulux®
Your Vision. Delivered.™

Call 800-984-5444 for more information.

©2007 ICI Paints. All Rights Reserved.

CIRCLE 20 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Letters

Too cool for Congress

In her August 13 news story on your Web site, Barbara Saffir questions why Congress is considering a nonarchitect for the Architect of the Capitol (AOC) post. Maybe it has to do with the erosion of architecture's moral authority. Our profession has traded a once-admirable voice of propriety and practicality for glitz and the spectacular. An example: Architects cannot at once be the credible voice for sustainability, our current mantra, while simultaneously advocating an architecture of fashion.

—James A. Gresham, FAIA
Tucson

Getting better all the time

Love the August "Engineering new architecture" issue—another home run! Between my brother and myself, we've been subscribing for over 30 years, and the magazine is better now than it's ever been.

—Chris Morris
Manhattan

Going the extra mile

William J. Mitchell's Critique on City Cars [August 2007, page 55] holds great potential for solving a serious traffic-congestion problem in New York City. I am a member of the AIA N.Y.C. Transportation and Infrastructure Committee and this issue came up at our last meeting while discussing Mayor Bloomberg's NYCPLAN 2030. Train commuters coming from the suburbs into Manhattan face the problem of getting to the train station by car and having nowhere to park, since parking lots are full and you need a permit, which could take years to get from the municipality! Many suburbanites are forced to take their cars into the city because they have nowhere else to leave them. For the City Car system to be truly a valet service, however, the cars need to return to their original destination to stack and recharge, rather than sitting idle in a parking lot or driveway. In the interest of encouraging the use of mass transit, could the inventors figure out a homing pigeon autopilot system to return these cars to their home train station?

—Edward Cohen, AIA
Manhattan

Corrections

A caption in the August story on Suvarnahbhumi Airport [page 112] misidentified one of the apron control towers as an air-traffic control tower. An August story about downtown Jackson, Mississippi [page 38], incorrectly credited the designers of the Mississippi Museum of Art. Glavé & Holmes Associates was design architect, and Dale and Associates was local architect. New facts have come to light since the publication of July's news story about Yonkers, N.Y. [page 42]. The downtown redevelopment project River Park Center will not break ground this month, as reported, because it has not yet received necessary approvals. Stuever Fidelco Cappelli, the development entity, does not yet have possession of the land, and municipal leaders are still determining which portions of the development they might fund.

Send letters to rivy@mcgraw-hill.com

Inspiring.
Majestic.
Extraordinary...

and the
architecture
isn't bad either.

B-K LIGHTING TEKA ILLUMINATION

www.bklighting.com • 559.438.5800 • www.tekaillumination.com

CIRCLE 21 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

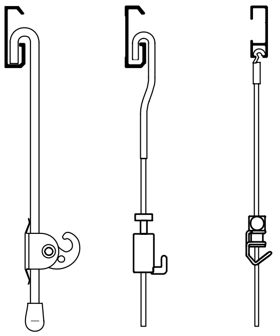
Hang with the Best

Contemporary or Traditional.
Hospitality, Residential or Contract.

Whatever the challenges of your next project, you may find your presentation solutions from us.

Protect valuable wall surfaces. Minimize wall damage and maintenance. Increase white collar productivity with "footprintless" easels. Enable infinitely flexible presentation.

With over 7,000 successful installations in North America and an extremely broad product offering. We have both the experience and products to help with your presentation needs.



AS
Hanging Systems
Montreal, QC (Canada) • Champlain, NY (USA)
866 935 6949 • www.ASHanging.com

Hang with the best.
Hang with AS Hanging Systems.

CIRCLE 22 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Cardinals
Cardinals
CARDINALS CLUB

KNOCK IT OUT OF THE PARK
with Sunbrella®.

Season after season, the awnings at the St. Louis Cardinals' awesome new Busch Stadium will welcome crowds thanks to Sunbrella® performance fabrics. With Sunbrella you get stunning colors that are permanently embedded into the very fiber of the fabric. This unique Sunbrella process provides vibrant colors and designs that are guaranteed to last five years in any weather. After all, Sunbrella has been the leader in quality fabrics for decades.

For a winning season every year, specify Sunbrella fabric on your next awning project. It will mean less worry for your customers and ultimately less hassle for you. For more information on our variety of styles and colors, contact your Glen Raven sales representative or visit sunbrella.com.

sunbrella®

www.sunbrella.com

RECOMMENDED
SKIN CANCER FOUNDATION
RECOMMENDED AS AN EFFECTIVE UV PROTECTANT

Sunbrella® and are registered trademarks of Glen Raven, Inc. Location courtesy of the St. Louis Cardinals. Awning installation by Lawrence Fabric Structures, Inc., St. Louis, MO.

CIRCLE 23 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

door

window

cabinet

grips

sinks

faucets

towel bars

hooks

hinges

lighting

tile

Jane lever shown on Designer Collection escutcheon with white leather, UJ lever shown on Metro Collection escutcheon

SCS
Recycled Content
Minimum 72%
50% Post-Consumer Metals
This product can be used to earn LEED MR Credits 4.1 and 4.2.

888.552.9497

rockymountainhardware.com

ROCKY MOUNTAIN®
HARDWARE
HANDCRAFTED BRONZE HARDWARE

CIRCLE 24 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Introducing a new joist
installation tool:
the foot.
SIMPSON
Strong-Tie
®

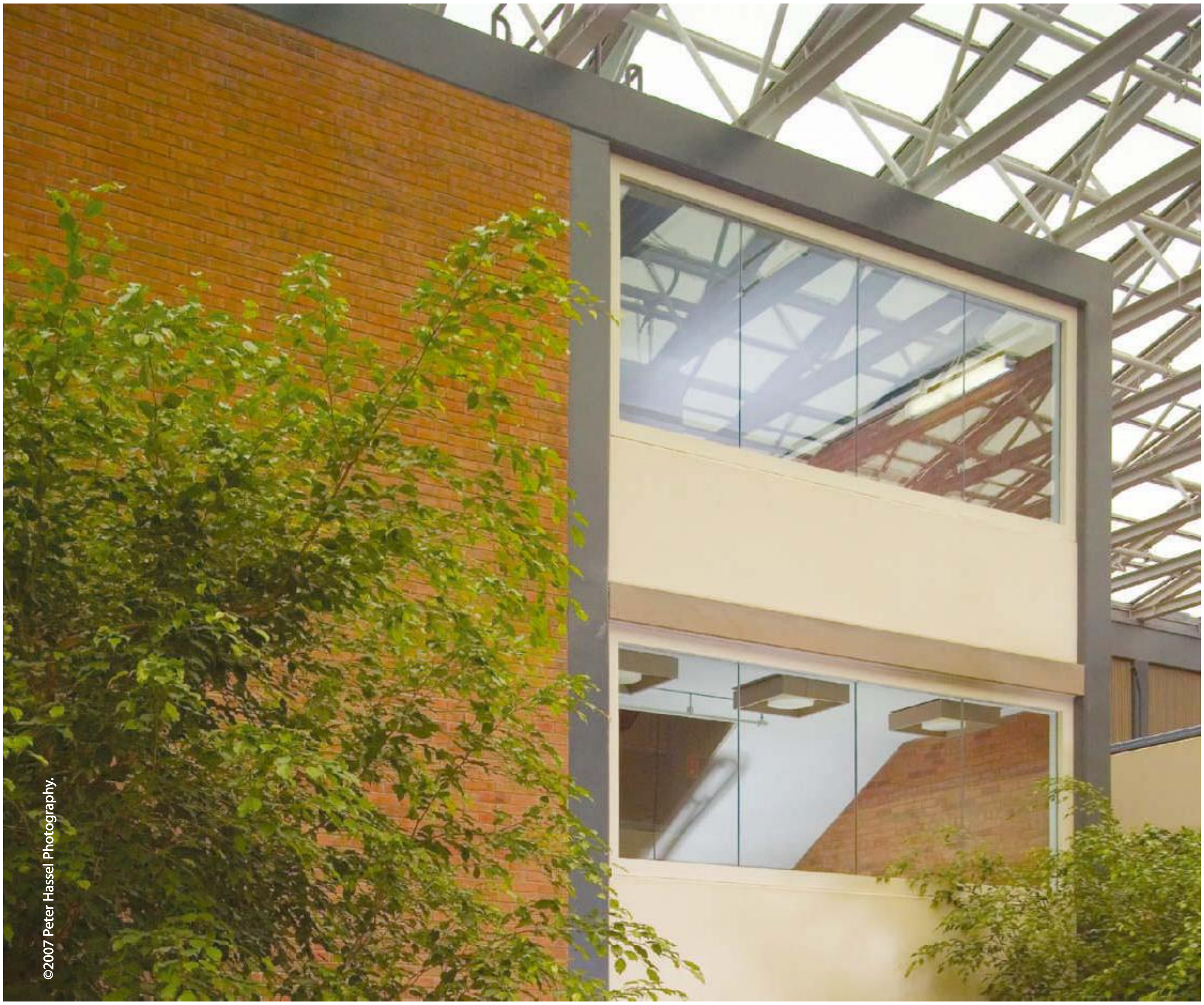
Now you can specify a top flange I-joist hanger that doesn't require joist nails. With the new ITS, installers just slip the joist into the hanger, step on it to snap it into place and move on. The ITS installs up to 40% faster than comparable hangers, significantly saving on labor costs. And since it's designed for the loads you need, you don't sacrifice performance. In fact, the simplified, innovative design also helps reduce installation errors. The new ITS: Just tell them to step on it.

Call 1.800.999.5099 to speak with a Simpson representative or visit **www.strongtie.com**.

©2007 Simpson Strong-Tie Company Inc. ITS07-A

CIRCLE 25 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Take Your Fire-Rated Projects From Ordinary to Spectacular!



Introducing The Unique 60-Minute, Butt-Glazed, Transparent Wall

Imagine an entire fire rated wall uninterrupted by vertical framing! The Vision 60 System™ is just that—a fully glazed 60-minute transparent wall with no intermediate framing. Each panel of Pyrobel-60® fire rated glazing is separated by a slim silicone caulking, offering truly free and open vision for your projects. With numerous framing options available, this system is ideal for transportation facilities such as airports, retail centers, commercial office buildings, hospitals, schools and any other location where uninterrupted viewing is desired.

For the most up-to-date information on our entire suite of fire rated solutions, including maximum glazing sizes, framing details, CSI specs, and project photos, please call us at **1. 877. 376. 3343** or visit us online at **www.firesafe-glass.com**.

FIRE-RATED
IMPACT SAFETY
TRI SAFE™
RADIANT HEAT

AGC INTEREDGE TECHNOLOGIES

Pyrobel is a registered trademark of AGC Flat Glass Europe. TRI-Safe is a trademark of AGC InterEdge Technologies.

Photograph: The Sensata Technologies buidling in Providence, Rhode Island. Here the Vision 60 System is used not only to protect lives and property, but to provide full vision and light into the stairwell enclosures on multiple floors.

CIRCLE 26 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

U.S. GREEN BUILDING COUNCIL MEMBER

15 Year Fully Transferable WARRANTY

When we go green, we go all the way.

Green is where it's at. Our new LG HI-MACS Eden Collection is certified by SCS and created from at least 12% pre-consumer recycled material, making it one of the most environmentally conscious acrylic products in the industry. Inspired by garden botanicals, our six beautifully natural colors are non-porous, anti-microbial and stain resistant, and are backed by our signature 15-year warranty. So the planet is happy, and so are your clients.

866-LGHI-MACS • LGeden.com

Certified by Scientific Certification Systems (SCS) for Recycled Resin.
Featured product: LG Eden in Ivy, Cocoa and Jasmine. Fabrication by Top Master Inc., Kansas City.
© 2007 LG HI-MACS LG-012701 5/07

LG | LG HI-MACS
EDEN
COLLECTION

The secret's in the surface.

CIRCLE 27 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

WWW.MAKECHANGEGOOD.COM

CHANGE IS GOOD

The building industry is full of change.

And you are constantly trying to keep up. With the big changes in how the profession does business. With the countless small changes made on every project, every day.

How well do you respond to change? Are you sure that every change you make is good for business?

Bentley's Building Information Modeling and Management solutions make change a good thing. By equipping your team to respond to changes effectively, they'll embrace change and see it as an opportunity, rather than a challenge. And so will you.

By changing the way you think about change – you can transform your business.

Make change good for you. Visit **www.MakeChangeGood.com** or call 1 800 BENTLEY.

BENTLEY®

© 2007 Bentley Systems, Incorporated. Bentley and the B logo are either registered or unregistered trademarks or service marks of Bentley Systems, Incorporated or one of its direct or indirect wholly-owned subsidiaries. Other brands and product names are trademarks of their respective owners.

CIRCLE 28 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Record News

Inside the News

p.42 **Penn Station retool gains steam**
p.48 **Congress gives AIA "slap in the face"**
p.50 **Leeser wins mammoth competition**

For daily Record News updates and weekly podcasts:
architecturalrecord.com/news/

KPF design for 5 WTC sparks new controversy at Ground Zero

Kohn Pedersen Fox (KPF) chairman Gene Kohn has confirmed that his team is designing a new headquarters for JPMorgan Chase's investment bank at the World Trade Center site—a project that attracted considerable attention in June when the bank announced its intention to build in Lower Manhattan—and stresses that despite an early PR setback, his design will satisfy project stakeholders as well as the public.

Known as 5 World Trade Center (WTC), the new building will replace the Deutsche Bank tower, which was heavily damaged during the attacks on September 11, 2001, and is now being dismantled. Kohn says that he began studying the site two or three years ago at the request of its landlord, the Port Authority of New York & New Jersey. The new tower will occupy a footprint of 32,000 square feet, ceding 18,000 square feet to the St. Nicholas Church, which will be rebuilt after its complete destruction during the attacks.

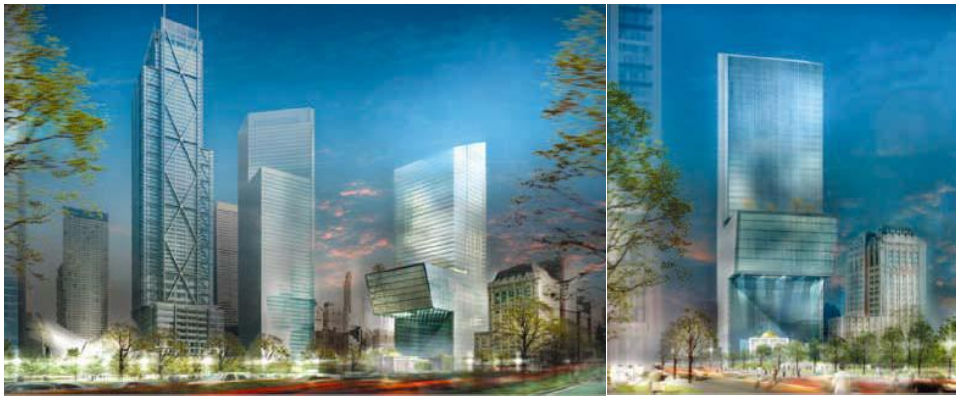
Kohn says that he performed several massing studies to design a way of wedging large floor plates onto the small available footprint. "Obviously, the site has a lot of limitations, and the Port Authority wanted to see if JPMorgan Chase would go for it," he explains. Preliminary sketches won the bank's confidence in KPF—but when New York's governor, Eliot Spitzer, unveiled them at a June 14 press conference, observers soon began piling on criticisms.

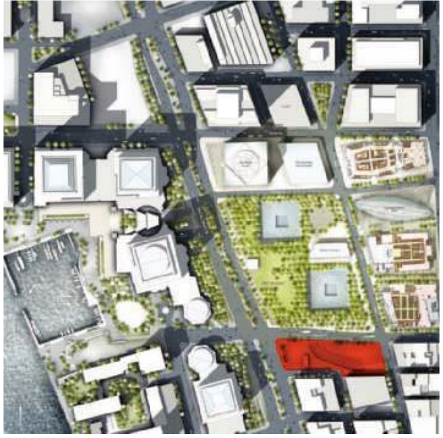
The most prominent feature of KPF's glass-walled, 743-foot-tall tower is a cantilever located several stories up that is designed to provide space for the bank's trading floors. While most levels of the building comprise 32,000 square feet, the seven floors in this section encompass as much as 56,000 square feet apiece. Critics worry that they might cast a sizable shadow over a new public plaza at the World Trade Center site. In a Bloomberg news service item, writer James S. Russell described 5 WTC as "a spectacularly amateurish performance by a firm capable of corporate design at the highest level."

Even Spitzer's comments seemed, at best, a lukewarm endorsement. "I'm not an aesthete, so I refuse to pass judgment on this or others," he said at the June press conference, "but it will [create] an all-weather park where it's possible to play ball in the rain."

The hubbub over KPF's early sketches prompted the Lower Manhattan Development Corporation, which shepherds financing for Ground Zero, to defend the design in an e-mail news update on July 11. "[The cantilever] will cast a minimal shadow on Lower Manhattan, particularly compared to its taller neighbors," the group said. These possible neighbors, which have yet to attract tenants, include office skyscrapers designed by Norman Foster, Richard Rogers, and Fumihiko Maki.

Contested designs at the World Trade Center site are nothing new, of course. For his part, Kohn hopes that KPF's design will gain favor as it is refined; a final scheme will be ready this winter. Kohn says that the bank, which officially appointed KPF to design the tower on July 17, wants a beloved downtown landmark. The controversial 5 WTC cantilever, he adds, "acts like a great porch, all glass and very light." *Alec Appelbaum*

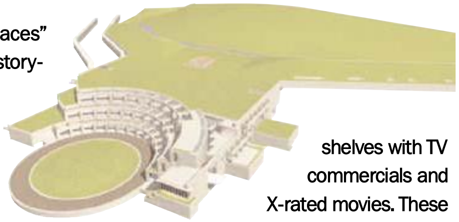




KPF has prepared preliminary designs for 5 WTC, an office tower that will house JPMorgan Chase's investment bank (above right). It proposes to locate the bank's trading floors in a volume that cantilevers over a small church and plaza, but critics complain the volume will cast too large a shadow over Ground Zero (above left). As shown in the plan at left, 5 WTC will stand south of the Twin Towers' footprints, over a curved access road in the red highlighted area. The site is currently occupied by the Deutsche Bank tower, which is being demolished. Foster & Partners is designing a building to the north and east of the Twin Towers' footprints, while buildings by Rogers Stirk Harbour + Partners Partnership and Maki and Associates will line up south of Santiago Calatrava's transit hub. Designs for those three office towers were unveiled in late 2006. *A.A.*

IMAGES: COURTESY PORT AUTHORITY OF NEW YORK & NEW JERSEY (RENDERINGS); SPI/FOSTER & PARTNERS (MAP)

Dr. Strangelove finds home in Cold War relic



Burrowed 50 feet into a hillside near Washington, D.C., a once-secret, nuclear-blast-proof bunker that held billions in cash reopened in August as a showcase for the world's largest collection of moving images and sound recordings. BAR Architects and SmithGroup oversaw the transformation of this cold war–era Federal Reserve Bank facility into the new National Audio-Visual Conservation Center for the Library of Congress.

The nonprofit Packard Humanities Institute purchased the decommissioned bunker at Mount Pony in Culpeper, Virginia, for $5.6 million in 1998 and then funded its $155 million transformation, donating the facility to Congress in July—the largest gift ever made to the legislative branch. The 415,000-square-foot complex now provides space for preserving 6 million items from the library's Motion Picture, Broadcasting, and Recorded Sound Division. These items were previously scattered throughout seven locations nationwide.

BAR principal Earl Wilson says that one of the key design challenges was ensuring that librarians and conservationists have access to daylight. Although 80 percent of the structure is below grade, the designers located "people spaces" near a curving, three-story-tall window along the building's rear elevation, opposite the main entry. Openings punched into the 16-to-18-inch-thick concrete, blast-proof interior walls help channel natural light into the inner rooms.

Three linked buildings make up the 45-acre complex. The main structure contains 187,000 square feet of audio- and video-processing areas, offices, and specialized workrooms for digitalizing recordings from older media, such as cassette tapes and vinyl records. It also includes public spaces such as a 208-seat theater, which will be open for occasional film screenings. At the lowest level of the four-story complex, the Collections Building contains low-humidity refrigerated vaults for storing original recordings. Classic films, old newsreels, rock music, and show tunes share the shelves with TV commercials and X-rated movies. These collections even include the world's oldest surviving moving image—Thomas Edison's 1893 film of a person sneezing—and, fittingly, the cold war classic *Dr. Strangelove*.

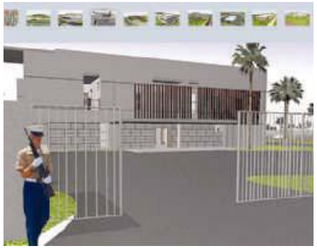
At the opposite end of this lowest level sit 124 metal-clad vaults for storing highly flammable nitrate film reels. When the architects first inspected this section before it was gutted and rebuilt, they found papers and other personal items lying untouched on the 1960s-era desks. "It looked dismal and depressing," says Hal Davis, of SmithGroup's Washington office. "It was an eerie sight, a twilight zone." Perhaps the eeriest thing of all, though, was a cache of body bags—preparations for a nuclear war that, thankfully, never happened. *Barbara J. Saffir*

Client secrecy: Between Iraq and a hard place

The new U.S. Embassy in Baghdad, which is scheduled to open this month, will only be accessible to visitors who undergo extensive security checks. The State Department has tried to deflect attention from the compound, but Internet users got an unexpected peak at it when images were posted online this spring.

Berger Devine Yaeger (BDY), of Kansas City, Missouri, and Sorg Associates, based in Washington, D.C., designed the embassy for a 104-acre site in Baghdad's Green Zone. Tom Engelhardt, a left-leaning blogger and war critic, discovered renderings of the project on BDY's Web site in May and began writing about them. The images were cartoonlike and offered little detail, but they included some bird's-eye views. Citing concerns, the State Department soon ordered that they be removed; as of mid-August, BDY's entire site was still listed as "under construction."

Neither the State Department nor BDY would speak to RECORD about the incident; Sorg also declined comment. It is unclear how long the images appeared on BDY's Web site, or what kind of security breach their appearance there constituted. Engelhardt and other observers, though, doubt that they were significant. "You can get more information about the project from Google Earth than you can get from these renderings," he says.



After a blogger discovered this rendering of the U.S. Embassy in Baghdad on Berger Devine Yaeger's Web site, The Associated Press, the British Broadcasting Corporation, and other news agencies published it.

Despite the wall of secrecy that has since gone up around the Iraq project, one thing remains clear: The Baghdad complex will be the largest embassy in the world. The *Los Angeles Times* reported that the 27-building compound will be entirely self-sustaining, featuring its own power generation, water purification, and sewage treatment infrastructure, as well as housing for nearly 400 families, a school, and a fire station.

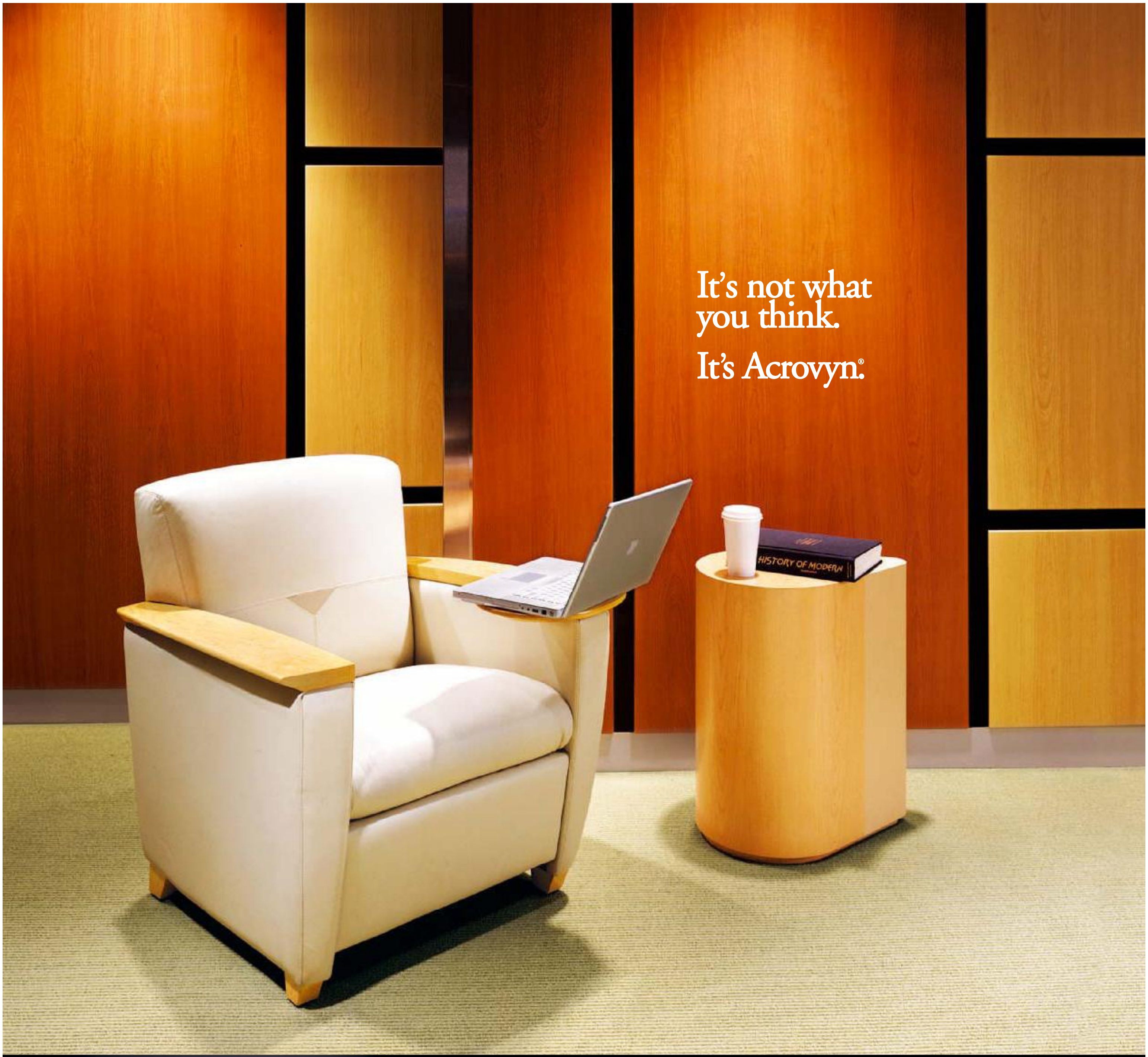
Other press accounts note that construction has been riddled with problems. *Engineering News-Record*, RECORD's sister publication, reported that electrical faults forced the closure of temporary structures to house security guards, and that the State Department investigated allegations that the Kuwati construction contractor brought immigrant laborers to Iraq against their will.

For Engelhardt, the scale of the embassy remains this story's most important aspect—particularly in light of U.S. military bases being constructed elsewhere in Iraq. "It's hard not to see the embassy as part of a larger permanent infrastructure," he says. *Alan G. Brake*

Airports eye new blast protection systems

A row of cement bollards blocking the main entrance to Glasgow's international airport terminal prevented an explosives-packed vehicle from crashing into the building with disastrous consequences in June. Other airports have erected bollards or reinforced-concrete blast walls for the same reason. Jomo Kenyatta International Airport, in Nairobi, Kenya—a country rocked by terrorist bombings in 1998 and 2002—is taking the strategy a step further. As part of $145 million in renovations, designed by a consortium led by Queen's Quay Architects International, the airport is isolating all vehicular traffic from its three terminals. Blast barriers and shrapnel protectors, disguised as planters, will guide cars toward a remote facility where passengers will undergo security checks. (Visit architecturalrecord.com for images and more information on similar projects in the U.S.) *Albert Warson*

IMAGES: © BARBARA J. SAFFIR (TOP LEFT); COURTESY BAR ARCHITECTS/RENDERED BY IONIC STUDIOS (TOP RIGHT)

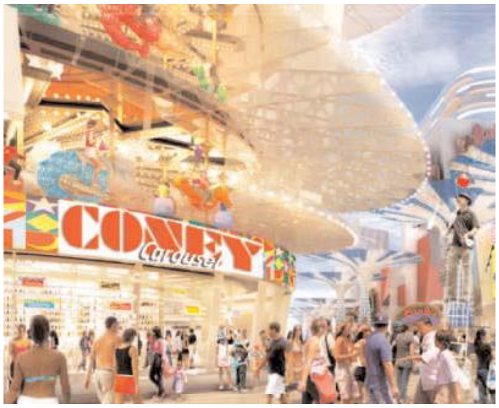

It's not what you think.
It's Acrovyn®
HISTORY OF MODERN

C/S Acrovyn® Chameleon™ faux wood and metal Wall Panels and Wall Covering are so realistic that there's no need to sacrifice durability for aesthetics. To see the complete Chameleon Pattern Collection, call 1-888-621-3344 or visit us at www.c-sgroup.com.

C/S Acrovyn® Chameleon™ Collection

CIRCLE 29 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Coney Island poised for redevelopment



The Wonder Wheel will be spared (left), but Astroland is making way for a new hotel and entertainment complex (above).

When Coney Island's Astroland amusement park closes its gates this Labor Day weekend, it will be for good. The kitschy but beloved 1962-vintage venue in Brooklyn, New York, is making way for a massive new entertainment and hotel complex developed by Thor Equities. Nearby businesses and residents successfully pushed to have this project scaled back, but there's no stopping a wave of redevelopment sweeping the area.

Astroland sits on Coney Island's famed beachfront Riegelmann boardwalk, which runs 2.7 miles along the Atlantic Ocean, within in a six-block amusement district. Other storied attractions nearby include the Wonder Wheel, built in 1920; the 1939 New York World's Fair Parachute Jump; and the original Nathan's Hotdogs eatery, built in 1916.

Thor has spent $100 million over the last few years to purchase 12 acres, roughly two thirds of the amusement district. It plans to build 2 million square feet of retail shops, an enclosed water park, new thrill rides, and hotels. Designed by Ehrenkrantz Eckstut & Kuhn (EE&K), the buildings will feature extensive glass and perforated-metal screens, opening them to the outdoors. And in a nod to the area's history—in particular, the Coney Island Mermaid Parade—a 150-foot-tall glass tower will contain light projections of a mermaid. "Our goal is to create a Coney Island of the future that reflects today's day and age while linking this to the history and traditions of Coney Island's past," says Peter Cavaluzzi, design principal at EE&K. "We are looking to build a safe environment that would draw people all year round."

While steady traffic will be a boon to nearby businesses, many retail operators—particularly those who will be displaced by construction—are concerned that they will be unable to afford higher rents in the new buildings. And their worries don't end there. "Even if some of us are able to keep our businesses, we will experience years of inactivity since the neighborhood will become a construction site," explains Chuck Reichenthal, district manager for Community Board 13.

Thor has shown willingness to work with the community. After being pressured by residents who live near the development site, it scaled back its plans by 1 million square feet. The community board is also not entirely opposed to change. It supported the city's 2003 rezoning to strengthen the amusement district's core by allowing new jobs and residential development there. City officials have also allocated $83.2 million to area improvements, including the creation of new streets, parking, open space, and a community center. It's also building Steeplechase Plaza, a low-to-middle-income affordable housing complex, and will renovate the New York Aquarium, located on Surf Avenue.

"Coney Island is the most populist place on earth and a symbol of New York," says New York City planning commissioner Amanda Burden. "It is critical to save and build on the amusements that define Coney Island—and we are determined to do just that."

Those who will be directly affected by the coming changes are simply asking for a voice at the table. "Either way, it's definitely going to get redeveloped," says Dianna Carlin, who launched the Save Coney Island Group after Thor gave her and other businesses a move-out date of October. "How this redevelopment is done will determine whether or not it is still Coney Island." *Dianna Dilworth*

SOM, Foster, KPF to remake Penn Station

Skidmore, Owings & Merrill (SOM), Foster + Partners, and Kohn Pedersen Fox (KPF) have been retained as architects for a multi-billion-dollar-project to redevelop New York City's Pennsylvania Station district, parties close to the deal have confirmed to RECORD.

Bud Perrone, a spokesperson for the project's developers, a joint venture of the Related Companies and Vornado Realty Trust, confirms that a combination of Foster and SOM will prepare the master plan for a site that includes the existing Penn Station, Madison Square Garden (MSG), and two office towers, One and Two Penn Plazas. This plan calls for razing MSG and capping the subterranean train station with a large glass dome. Brisbin Brook Beynon Architects will design a new MSG, while SHoP Architects has been retained to develop a streetscape plan.

Errol Cockfield, a spokesperson for the Empire State Development Corporation (ESDC)—the state agency involved in organizing public-private development—confirms much of the project's scope. The scheme includes SOM's previously announced transformation of the Farley Post Office, at the southwest corner of 33rd Street and 8th Avenue, into a new Moynihan Station to augment Penn's existing infrastructure. The new MSG would be located just west of Moynihan. Cockfield says that the low-rise podium of One Penn would likely be razed, but that the tower itself will remain and that Two Penn will be re-skinned. (RECORD's offices happen to be located in Two Penn Plaza.)

Additionally, KPF will design a 2-million-square-foot skyscraper at the corner of 34th Street and 7th Avenue that will be taller than the Empire State Building, located just two blocks away. Cockfield says that the ESDC has yet to assemble a timetable for making the designs public, or for the phases of development. "Some of this is still in flux and people want answers, and there is frustration in some corners," he says.

The destruction of McKim, Mead and White's original 1910 Penn Station, in 1964, is largely credited with establishing the historic preservation movement in the U.S. Charles Luckman Associates designed the replacement station, MSG, and office complex, but the public has never quite embraced them.

Separately, plans were announced last winter for the destruction of McKim, Mead and White's 1918 Pennsylvania Hotel, at the northeast corner of 32nd Street and 7th Avenue, to make way for a 2.5-million-square-foot tower designed by Pelli Clarke Pelli Architects and developed by Vornado. *Russell Fortmeyer*

IMAGES: © JAMES MURDOCK (LEFT); COURTESY EHRENKRANTZ ECKSTUT & KUHN (RIGHT)

Sloan Puts Luxury AND Hygiene in the Palm of Your Hand

- "Feels Great" – an enhanced user experience
- Luxurious foam in three formulations – standard, with moisturizer, anti-bacterial
- Chrome-plated metal spout
- Touch-free operation promotes hygiene

To order your Architect's Sample Program go to **www.sloansjs1750.com** or call 800-982-5839.

SLOAN
JANSAN
FOAM SOAP

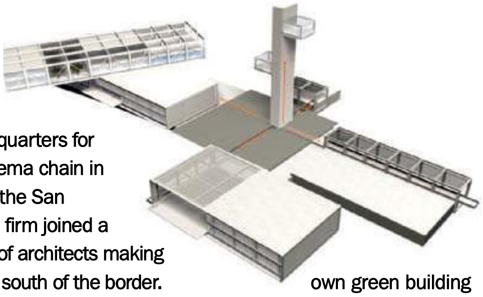
SLOAN®

800.9.VALVE.9
(800.982.5839) ext. 5034
www.sloanvalve.com

In China:
Sloan Valve Water Technologies
(Suzhou) Co. Ltd.
Suzhou New District, China
www.sloan.com.cn

CIRCLE 30 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Sustainable design heads south of the border



KMD Architects' headquarters for Cinepolis (left). A Guadalajara office building by TEN Arquitectos (above).

When KMD Architects was recently tapped to design a new ecofriendly headquarters for the Cinepolis cinema chain in Morelia, Mexico, the San Francisco–based firm joined a growing number of architects making their green mark south of the border.

Mexican buildings have traditionally incorporated sustainable principles, including using local materials such as naturally insulating adobe, and using courtyards with fountains to cool indoor spaces. Recently, sophisticated green technologies—photovoltaic cells and on-site waste treatment—began working their way into development.

Throughout Latin America, only two buildings, one of them in Mexico, are LEED certified. But the list could grow. Six Mexican projects have registered with the U.S. Green Building Council (USGBC) for LEED certification. And in 2005, Mexico founded its own green building council (MexicoGBC), the first in Latin America. "Mexico's building and construction industry is just waking up and realizing that we are big players," says Cesar Ulises Previno, MexicoGBC president. "We have a lot of potential to make a difference."

Some companies decide to build green because they want to set a precedent, says KMD principal Carlos Fernandez del Valle. This was the case with Cinepolis's 162,000-square-foot headquarters. Occupying just 10 percent of a hillside site, four low-rise buildings will feature rooftop gardens, daylighting through low-emissivity glass, and ventilation from windows that open onto interior courtyards. KMD estimates that operating costs will be 30 percent lower than comparable-size buildings in Mexico. Another project among the fresh green crop is a $12 million, 119,000-square-foot office building in Guadalajara designed by TEN Arquitectos. The 14-story tower features a woven steel-mesh skin that protects it from the elements and reduces the strain on heating and air-conditioning. Behind this screen, operable windows in the glazed curtain wall allow for natural ventilation.

As energy costs rise alongside concerns about climate change, Mexican businesses are realizing that sustainable development is worth the investment. But the government has yet to define standards for determining efficiency, Previno says, let alone offer incentives to developers who go green. "There are buildings here incorporating solar power, recycling water, but how can we define what falls into 'green' and what doesn't if we don't have a formal checklist?"

MexicoGBC is currently creating a LEED program tailored to the country's needs. There are also signs that the government is showing interest in sustainable development. It tapped Alberto Kalach to design the new Biblioteca Vasconcelos public library in the capital city. Kalach's aesthetic features plain concrete and wood, which reduce the use of paint. "When you don't spend energy making an extravagant facade, you consume less energy building it," he says.

With ample daylighting and an on-site water-treatment plant, the 500,000-square-foot library campus embodies both traditional Mexican approaches to green architecture and more sophisticated technologies. "There's a lot of intrinsic knowledge in the design features of Mexican architecture and construction," Previno observes. "We need to rescue those good values." *Ronda Kaysen*

Transbay proposals up for public comment

The Transbay Joint Powers Authority will accept public comments via its Web site until September 17 on proposals for San Francisco's Landmark Transbay Transit Center and Tower by **Pelli Clarke Pelli Architects** (right), **Skidmore, Owings & Merrill** (below right), and **Rogers Stirk Harbour + Partners** (below left). It picks a final plan on September 20. *James Murdock*

Concrete progress made in Ghana

Stephen Kanner, a principal of Kanner Architects in Los Angeles, and his friend Joe Gaddo, an architect based in Ghana, are helping to develop a cement additive that could decrease construction costs there by a one third—no small accomplishment in a country where concrete is the preferred building material and yet few people are able to afford it.

The new additive is called PozzoGhana, a wordplay on an Italian ash-based additive called *pozzolana*. PozzoGhana is made of a mixture of palm kernels, which come from the fruit of palm trees that grow abundantly in Ghana, as well as lime and local clays. It will be used as a supplement to help reduce the use of imported cement, whose cost is rising. The simple process of producing PozzoGhana, the use of cheap local materials, and the less expensive local labor make it a cheaper option. "It could make a difference in so many construction projects," Kanner says, "especially if we can help with the low-income housing market."

Ghana's Council for Scientific and Industrial Research began developing PozzoGhana's formula 30 years ago. After completing an extensive testing process, the council lacked the money and resources to manufacture and market the additive on a large scale. Last spring, it entered into an agreement with Kanner, Gaddo, and PMC Global, a conglomeration of financial interests based in Sun Valley, California. PMC plans to build its first PozzoGhana factory in Prampram, Ghana, by early 2008, selling the material to contractors, fabricators, and developers. Eventually, the product will be sold throughout West Africa. *Sam Lubell*

IMAGES: COURTESY KMD ARCHITECTS (TOP LEFT); TEN ARQUITECTOS (TOP RIGHT); TRANSBAY JOINT POWERS AUTHORITY (BOTTOM THREE)

©2007 TurboChef Technologies, Inc.

It looks different.

And that's only the beginning.

15x

Cooks up to 15 times faster.

Roast, bake, broil, toast or even dehydrate to perfection in a fraction of the time. TurboChef Speedcook Oven's patented Airspeed Technology™ makes it possible.

More flavor.

Faster. And better. Meats come out caramelized, moist and tender. Baked goods, golden and flaky. And roasted vegetables, crisp and flavorful.

New, but with a rich history.

For over a decade, TurboChef Speedcook Oven technology has been embraced by four-star restaurants and chefs. And it's reliable. The new TurboChef Speedcook Oven also comes with a solid warranty and service network. Call us at 866-54-ENJOY or visit THE OVEN REINVENTED.COM.

THE OVEN. REINVENTED.

TURBOCHEF

Circle 142 on reader service card or go to
archrecord.construction.com/products/

Hadid makes her New York stage debut

Zaha Hadid made her New York City stage debut in July at Lincoln Center's performing arts festival, which presented the North American premiere of Ballet National de Marseille's *Metapolis II*. The work was conceived by Hadid—who also designed the sets and costumes—with choreographer Frédéric Flamand, the company's director. It belongs to a trilogy examining the relationship between the body and the city that Flamand created with leading architects, including Thom Mayne and Dominique Perrault.

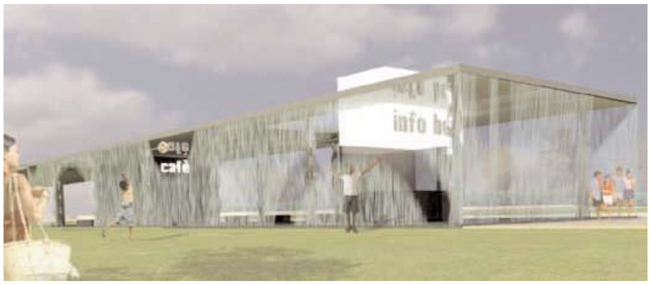
Metapolis II envisions a futuristic place "beyond the city" evoking the complexities of 21st-century urban life, in which virtual reality collapses the distinction between actual and simulated while towns encroach on countryside, confusing the character of both. It is a place where, as Flamand says, "you're everywhere, but at the same time you're nowhere."

To shape this "deterritorialized" world, he and Hadid conceived a mobile, multimedia scenography, creating an effect less architectural than pictorial. Three aluminum-and-fiberglass arches, representing both the city and the forces that drive it, form the set's main elements. The stage serves as a canvas for light shows that bathe it in washes of lush color or abstract designs. With blue-screen technology, live video images of the dancers projected onto the back wall merge with prerecorded footage of city scenes, incorporated into the blank outlines of costumes and props as the performers move. These films then coalesce like puddles and dissolve when dancers leave the stage.

Although the work envisions people in a city not made to their measure, it ends on a hopeful note: A girl encircles her body with a spiral-shaped aluminum sculpture, designed by Hadid. It is a symbol of urban renaissance—perhaps anticipating Hadid's Dancing Towers, now being "choreographed" in Dubai. (Visit architecturalrecord.com for a video of *Metapolis II*.) *Leslie Yudell*

Water walls shore up digital creativity

Virtual architecture is leaping from the computer screen into real life. Engineers and architects from the Massachusetts Institute of Technology (MIT) have designed a building made of water: a Digital Water Pavilion to be erected next summer at the 2008 World Expo in Zaragoza, Spain. Sponsored by the City of Zaragoza, the 5,000-square-foot, rectangular building will contain displays about the future of Zaragoza and its new Digital Mile district.



Architects are increasingly experimenting with computers to create interactive structures that respond to human needs in real time. But until the advent of new software—the pavilion's designers used standard CAD applications, a proprietary java-based program, and the open-source site processing.org—as well as new sensors and water solenoids, this malleable architecture existed on a conceptual plane. "Now we can put the physical and digital together," says Carlo Ratti, head of MIT's SENSEable City Laboratory. "This is a way to have responsive architecture—a way to have bits and atoms seamlessly merge."

The pavilion walls will be produced by a water pipe suspended 16½ feet in the air, punctuated by closely spaced solenoids. These computer-controlled valves will be opened and closed to create gaps in the water so that people can walk into the pavilion without getting wet, and to create parabolic shapes and patterns. Hydraulic pistons will raise and lower the stainless-steel roof, allowing the entire structure to disappear.

A water-walled building is appropriate for Zaragoza and other places with a hot and dry climate, Ratti says, because it is chilled naturally by evaporative cooling, avoiding the need for artificial air conditioning. The technology can also be used as a purely sculptural element. "The point that we want to make is that digital architecture should be able to totally appear and totally disappear." *Alex Ulam*

George Yu dies at 43

George Yu, a pioneer in digital architecture, died July 7 of a type of lung cancer that afflicts nonsmokers. He was 43 years old. As both a designer and teacher, Yu helped shape the way that architects envision and use new technologies such as digital imaging and fabrication. But his work always kept the human user in the foreground, never turning technology into an ideology or fetish. He did this by developing a keen sense for materials, light, and space.

"George was able to see the parameters of a digital world earlier than almost anyone else," says Neil Denari, AIA, principal of NMDA, who taught with Yu at SCI-Arc. "When he started his own firm [in 1992] he was shocking in his ability to imagine how these technologies would change architectural practice."

On his own, and in partnership with Jason King, Yu completed more than 65 projects, many of them for companies involved in new media and innovative design technologies. This pairing of clients and architect meant that each could learn from and teach the other. For example, in the Honda Advanced Design Studio in Pasadena, California (see page 118), Yu borrowed an innovative fabrication technology from the automotive industry and used it to create a sensuously curved interior wall.

Yu was born in Hong Kong but grew up in Vancouver and Victoria, British Columbia. He received a Master of Architecture from the University of California at Los Angeles, in 1988. He worked at Morphosis in Santa Monica, from 1988 until 1992, when he started his own firm in Los Angeles. Between 1997 and 2001, he worked in partnership with King as Design Office, which had offices in Los Angeles and Vancouver; the pair was honored by RECORD in its first Design Vanguard issue in 2000. Yu also taught throughout his career, first at the University of British Columbia's School of Architecture, then at SCI-Arc.

True to his Canadian roots, Yu was an avid ice hockey player and kept skating with his teammates until just months before he died. He is survived by his wife, Carole, and daughters Dara and Elena. *Clifford A. Pearson*

IMAGES: © PINO PIPITONE (TOP LEFT); COURTESY CARLORATTIASSOCIATI—WALTER NICOLINO & CARLO RATTI (TOP RIGHT); © GARY LEONARD (BOTTOM)

THE ONE GOOD REASON TO REPLACE YOUR PRINTER HAS ARRIVED. THE NEW HP DESIGNJET PRINTERS.

Your HP large-format printers are fast, dependable and produce excellent quality. Why mess with a good thing? We've just announced a great reason: the new HP Designjet T1100 and Designjet Z6100 series printers featuring the latest printing innovations to take your work and business to a new level. Deliver your AEC drawings, blueprints or renderings with less hassles and more professionalism than ever before.

And, for a limited time, there's another great reason. You can get up to **$4,000 cash back**[1] when you trade up to a new HP Designjet printer for more of the performance and quality you already count on.

HP DESIGNJET T1100 PRINTER SERIES

- Prints a D-size page as fast as 35 seconds[2]
- HP three-black ink set for sharp lines and true neutral grey
- Job Center and embedded web server for easy control of print job workflow
- In-printer processing that frees up workstation for other tasks

HP DESIGNJET Z6100 PRINTER SERIES

- Double Swath technology and Optical Media Advance Sensor that allows you to print at top speeds and still get great output
- Embedded spectrophotometer for color consistency[3]
- Eight Original HP Vivera pignment inks that deliver a wide color gamut and resist fading for more than 200 years[4]

Trusted printing for demanding professionals.
Don't wait! Cash-back offer ends 10/15/07. Visit www.hp.com/go/upgradenow18 for details.

[1] U.S. residents only. Cash back provided by mail-in rebate available for eligible purchases made June 1, 2007–October 15, 2007. Additional restrictions apply. Void where prohibited, taxed, or restricted by law. For qualifying product options, terms and conditions, and claim form, visit www.hp.com/go/upgradenow18. [2] Mechanical print time. Printed on plain media with Economode on. [3] With i1 Color Technology from GretagMacbeth. [4] Display-permanence rating for interior displays away from direct sunlight by HP Image Permanence Lab and Wilhelm Imaging Research, Inc. on a range of HP media. For details: www.hp.com/go/supplies/printpermanence. © 2007 Hewlett-Packard Development Company, L.P. All rights reserved. The information contained herein is subject to change without notice. Some of the images are simulated.

CIRCLE 32 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

The 1% helps do-gooders do more than 1%

When Public Architecture launched The 1% Solution in 2005, it tapped into the architecture community's altruism: The San Francisco–based practice and public-service advocacy has since signed up 157 firms to pledge 1 percent of their time to nonprofit organizations that could not otherwise afford design direction. And yet Public Architecture executive director John Cary admits that some of those promises have been "more symbolic than anything." A three-pronged initiative, to be unveiled September 4 along with a name change to simply "The 1%," will help architects realize their best intentions.

While The 1% has galvanized several pro bono jobs—the San Francisco firm David Baker + Partners Architects, for example, undertook a feasibility study and conceptual design for a Habitat for Humanity development in Oakland, California, as a result of its pledge—Cary says that he's fielded hundreds of queries from architects who don't know how to make good on a promise. Though Public Architecture had channeled architects' desire to help, there were still practicalities to overcome: How to find the right client? What about liability?

With financial support from seven architecture firms, the Web site theonepercent.org has been revamped to provide such assistance. A new matching service links architects with appropriate clients. It is "modeled most closely after a dating service," Cary says. Nonprofits submit information about themselves and their needs, architects submit information about their capabilities, and the software generates the best potential matches.

"We are almost inundated with phone calls from nonprofit organizations, church groups, and other clients worthy of pro bono design assistance," Cary says. "It's not just our organization that receives those kinds of inquiries, but virtually any architecture firm, AIA chapter, and school. We're not cataloging the needs out there; this Web site will provide for those functions."

The Web site now offers model contract language and contractual addenda for review and use, drafted with the law firms Long & Levit and Reno & Cavanaugh. "We don't want this legal dilemma to burden people to the point they can't act," Cary says, adding that official agreements bring dignity to the pro bono client. Both architects and clients can look to the third component of Public Architecture's effort for further guidance. *The 1% Users Manual* (pictured) offers how-to advice and case studies in collaboration.

Cary envisions that September's introductions are just a start, and hopes that this initial phase should build the organization's momentum. "I can imagine that, by finally addressing a lot of architecture firms' questions and needs, we will attract another cohort to The 1%." (Visit architecturalrecord.com to see results of The 1%'s survey of architects who do pro bono work and why.) *David Sokol*

Searching for a non-Architect of the Capitol?

Congress is considering a nonarchitect for the nation's most visible architecture post, the Architect of the Capitol (AOC), and that's riling the American Institute of Architects (AIA). "It's a really big slap in the face to the profession of architecture in this country to select someone other than an architect to be Architect of the Capitol," says Marshall Purnell, FAIA, the AIA's 2008 president-elect. He is heading AIA lobbying efforts to get a licensed architect appointed to the congressional job, which oversees 2,200 employees, a $450 million budget, and includes everything from managing upkeep on the Capitol building to operating the Senate cafeteria.

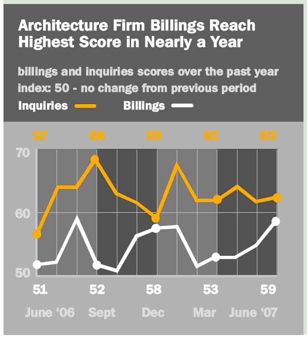
The AOC slot has been empty since February, when Alan M. Hantman, FAIA, retired at the end of a 10-year term. Under his leadership, the cost of the Capitol Visitor Center more than doubled, to $600 million, and its opening date fell three years behind schedule. Although some of these woes stemmed from changes to the building's program after 9/11, they prompted Congress to seek someone with more experience overseeing large projects. The AIA contends that the four candidates it recommended have the necessarily qualifications. It also maintains that the AOC needs the design, construction-management, and historic preservation skills that only a licensed architect can offer. The statute creating the AOC position, however, does not require an architectural background—and in fact the job has been held by a number of nonarchitects.

Congressional leaders claim that the AIA's candidates fail to make the grade. "They have not forwarded the kind of architects with experience in managing large projects; in overseeing large campuses; and in the kind of political acumen that's needed for the role," says Howard Gantman, staff director for the Senate Committee on Rules and Administration. That committee, with the Architect of the Capitol Commission, is charged with filling the vacancy. After consulting with the AIA, it hired the headhunter Heidrick & Struggles International and then sent three names to the White House. President Bush, who is not obliged to follow these recommendations, will choose the new AOC, and then a majority of the Senate must approve his selection. This could occur any time during the next few months.

The AIA believes that two of Congress's candidates are architects, but that the top choice is not. It is urging lawmakers to make their picks public. "The Architect of the Capitol is responsible for the expenditure of millions of dollars of public funds, and oversees the design, maintenance and operation of public facilities and grounds," AIA C.E.O. Christine McEntee, herself a nonarchitect, wrote to the committee. "Therefore, we believe that the public has a compelling interest in, and right to know, who the nominees are so that the public can provide informed advice to their elected leaders about the selection process."

As part of its lobbying, the AIA started a petition that, as of August, gathered 4,000 signatures. It also created a blog on its Web site. The sentiment of many bloggers was captured by AIA member Gerald Lee, from Oakland, California, who wrote that he is unable to understand why Congress "had to look outside the field of architecture to find a suitable nominee" when America has 112,650 architects. "That is ludicrous," Lee said. *Barbara J. Saffir*

AIA's billings index posts robust gain


Architecture Firm Billings Reach Highest Score in Nearly a Year

billings and inquiries scores over the past year
index: 50 - no change from previous period

The American Institute of Architects' Architectural Billings Index (ABI) rose more than four points in June for a total score of 59.3—its highest level since last summer. Institutional projects accounted for much of the gain. ABI data comes from surveys sent to 300 mainly commercial firms. Studies suggest a correlation between the ABI and construction levels in nine to 12 months. *James Murdock*

IMAGES: © MENDEDESIGN (TOP)

Business & Technology Center
California State University
VBN Architecture
Formawall Dimension Series
Insulated Metal Wall Panels
FormaBond
Metal Composite Wall Panels
Great Works

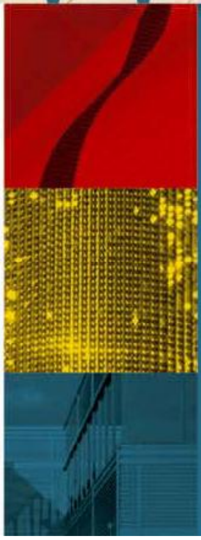
The art is yours. The palette is ours.

Your project is not merely a building, but a work of art. CENTRIA can help you bring your vision to life. Our architectural metal wall systems are crafted to the highest aesthetic standard. And, with features such as Advanced Thermal Moisture Protection (ATMP®) and Cradle-to-Cradle certification, our products are just as functional as they are beautiful. CENTRIA also offers an experienced sales team and a dedicated installer network to ensure that your design is executed successfully — just as you envisioned it.

To learn more about our palette of products, call us or visit our website.

800.752.0549 | CENTRIA.com

CIRCLE 33 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

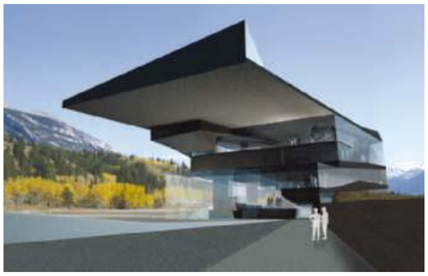


CENTRIA
Architectural Metal Wall
and Roof Systems

Formawall® Dimension Series®
Formawall® Graphix Series™
FormaBond®
Concept Series®
Profile Series

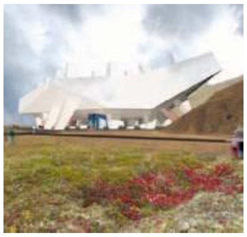
News Briefs *architecturalrecord.com/news/*

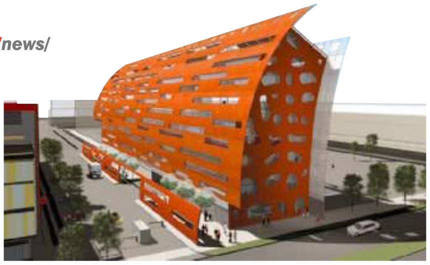
Saucier + Perrotte Architectes, in collaboration with Marc Boutin Architects, have designed the National Mountain Centre, a Rocky Mountain museum and visitor's center in Canmore, Alberta.



Program elements within the five-story, 55,000-square-foot space will be layered—a touch inspired by geological stratification. The building's form resembles a massive stalagmite capped with a weighty cantilever. Inside, a snaking concrete ramp leads visitors through galleries, while a 98-foot-tall seismic column doubles as a rock-climbing wall, which will be North America's only venue for World Cup rock climbing competitions. Construction on the $33.4 million center is expected to finish in 2009. *David Sadighian*

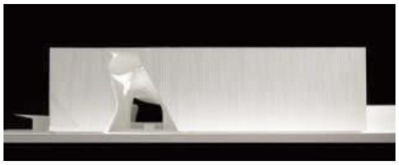
Leeser Architecture, based in Brooklyn, won a competition to design the World Mammoth and Permafrost Museum. Located in the Siberian city of Yakutsk, 280 miles from the Arctic Circle, it will be dedicated to the study of ancient mammoth remains and fragile permafrost landscapes. "It's the next best thing to building on the moon," says Thomas Leeser. "In summer, it's up to 90 degrees, and in winter it's easily minus 40." To prevent radiant heat from interfering with the frozen ground below, the 65,000-square-foot building will be elevated on 20-foot-tall stilts. Its projected opening date is 2009. *Tim McKeough*





The British architect Will Alsop doesn't do quiet buildings, and fittingly his latest North American project will be an icon for a bold development project: one of the largest film studios on the continent. Unveiled last month, Alsop's design calls for a cantilevered, 280,000-square-foot building that will function as a production and office anchor for the new Filmport complex in Toronto. It takes the shape of a giant arc, its inner face wrapped with a glass curtain wall and the outer face with Cor-Ten steel punctuated by a series of bulbous window openings. "It bends over and gives cover to what will be a very lively, public square," Alsop says. *Alex Bozikovic*

Lahdelma & Mahlamäki Architects' Museum of the History of Polish Jews, a 140,000-square-foot building located in Warsaw's old Jewish quarter, broke ground in June. The five-story, cuboid volume features an organically shaped incision through its entire depth that ranges in width from 23 feet to 39 feet. Architect Rainer Mahlamäki says that it references Moses's parting of the Red Sea. The curved surfaces of this negative space will comprise prefabricated modules of sandstone-mixed concrete, providing contrast to the rigid geometry of the tempered-glass building shell. The museum is scheduled to open in 2009. *David Sokol*



The Buckminster Fuller Institute has launched The Buckminster Fuller Challenge, an annual competition that will award $100,000 for the implementation of a design solution that shows potential to solve humanity's most pressing problems while enhancing Earth's ecological integrity. The solution must embody Fuller's Trimtab principle: how small amounts of energy and resources applied at the right time and place can produce maximum positive change. Entries will be accepted September 4 to October 30. The prize will be awarded next June, in time for the 25th anniversary of Fuller's death. *C.J. Hughes*

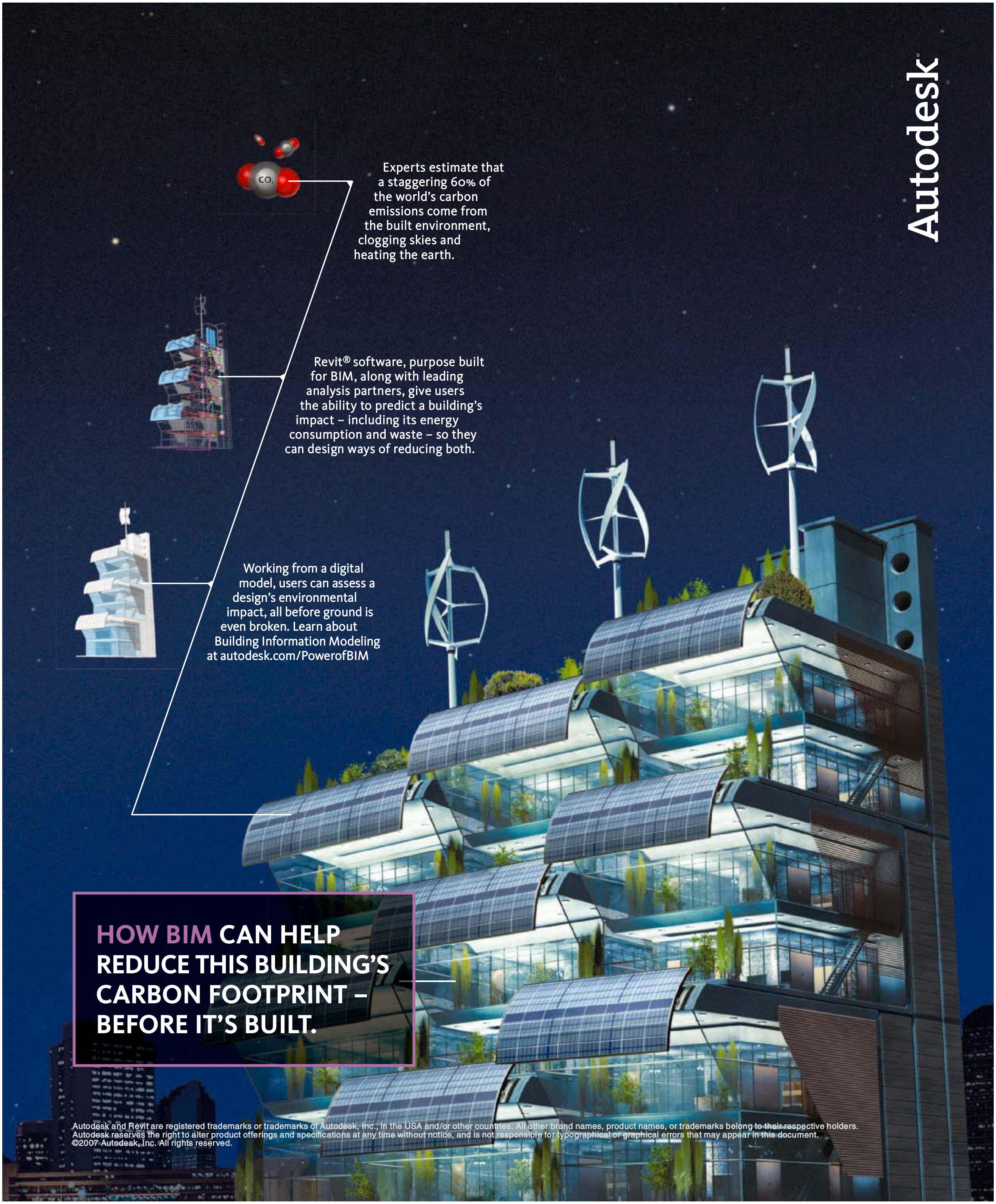
The Morris Mechanic Theater, in Baltimore, was recommended for landmark status by the city's preservation commission on August 14. The group also gave the 1967 Brutalist work by John Johansen "special list" status, which delays construction permits. Developers want to add a 10-story residential tower and retail levels onto the vacant theater. "They call it Brutalist architecture; I call it a mistake," says Melvin Greenwald, who owns the Mechanic with his son Benjamin. But preservationists, including commission member Michael V. Murphy, AIA, object that "it would be a tragedy to lose this building." *David Sadighian*

Shelby Farms Park Conservancy, in consultation with Alex Garvin & Associates, will issue an RFQ on September 4, with entries due October 4, seeking designers for a 4,500-acre park in Shelby County, Tennessee, at the northeastern edge of Memphis. The land, which is more than five-times the size of Manhattan's Central Park, has remained largely undeveloped since it was last used as a prison farm during the 1960s. "I hope that we cast a wide enough net to get truly the first park of the 21st-century," Garvin says. "It's certainly big enough to be something very special, and a 21st-century park is something very different from what Frederick Law Olmsted imagined when he won the competition for Central Park in the 19th century." Three finalists to design Shelby Farms Park will be picked in November; they will have 20 weeks to tour the site, meet with stakeholders, and develop a master plan. The finalist will be selected in April 2008. *James Murdock*

IMAGES (CLOCKWISE FROM TOP): COURTESY ALSOP/QUADRANGLE; © MICHAEL V. MURPHY; COURTESY JUSSI TIANEN; LEESER ARCHITECTURE; SAUCIER + PERROTTE ARCHITECTES

ENDNOTES

- Perkins+Will acquired Minneapolis-based Rozeboom Miller Architects, which specializes in K-12 design and civic buildings.
- SmithGroup bought AREA Design, a commercial interiors firm in Chicago.
- Gluckman Mayner was picked by Donald and Doris Fisher, founders of the Gap clothing chain, to design a 100,000-square-foot museum for San Francisco's Presidio park. It will house their collection of contemporary art.
- The Harvard Graduate School of Design tapped Mohsen Mostafavi, dean of Cornell's architecture school, to become its new dean in January.
- One fifth of the 2,711 concrete blocks in Peter Eisenman's Berlin Holocaust memorial, opened in 2005, have hairline cracks. Experts are unsure what caused the fractures, but estimate that sealing them will cost $38 million.
- Arata Isozaki's controversial addition to the Uffizi Gallery in Florence was greenlighted in August after a nine-year delay. Construction begins this fall.



Autodesk

Experts estimate that a staggering 60% of the world's carbon emissions come from the built environment, clogging skies and heating the earth.

Revit® software, purpose built for BIM, along with leading analysis partners, give users the ability to predict a building's impact – including its energy consumption and waste – so they can design ways of reducing both.

Working from a digital model, users can assess a design's environmental impact, all before ground is even broken. Learn about Building Information Modeling at autodesk.com/PowerofBIM

HOW BIM CAN HELP REDUCE THIS BUILDING'S CARBON FOOTPRINT – BEFORE IT'S BUILT.

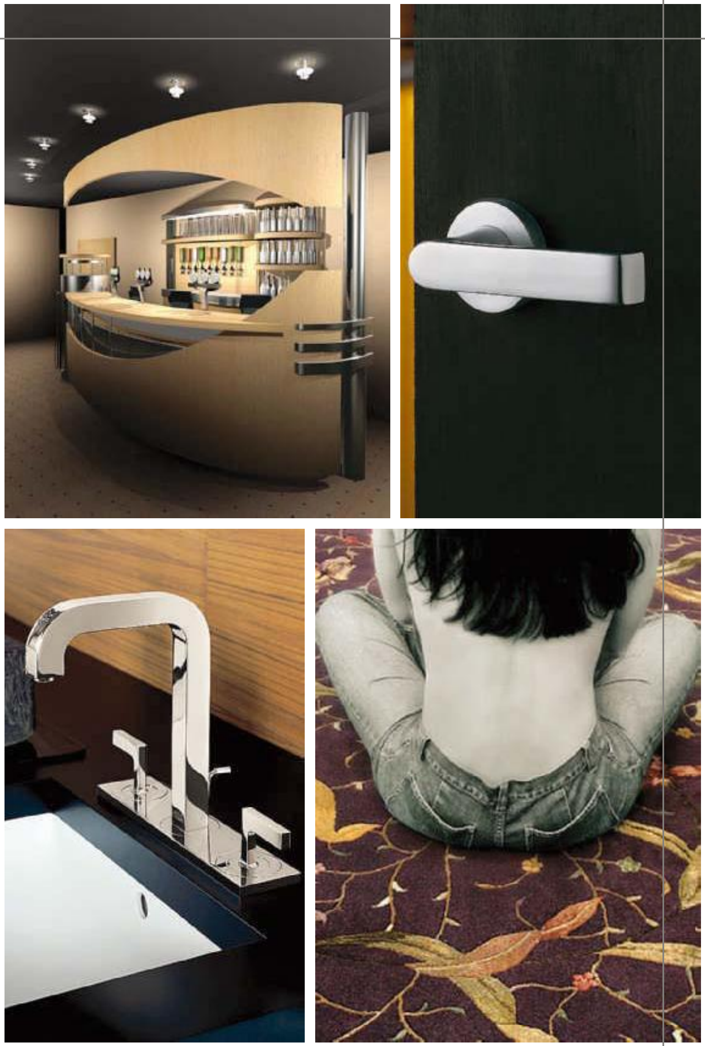
Autodesk and Revit are registered trademarks or trademarks of Autodesk, Inc., in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders. Autodesk reserves the right to alter product offerings and specifications at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document.
©2007 Autodesk, Inc. All rights reserved.

design

beauty

style

function



With over **One Million Products** from over **600** Manufacturers...
chances are **we have what you're looking for.** Find it all at our Family of Stores.

888.404.2744 | Free Shipping | Project Management Tools | Trade Pricing

Lighting Universe PRO
LightingUniverse.com

Fixture universe PRO
FixtureUniverse.com

Floors and Surfaces PRO
FloorsandSurfaces.com

Knobs and Hardware PRO
KnobsandHardware.com

ATG AlliedTradeGroup Inc. Family of Stores

CIRCLE 34 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

GYPSUM BOARD
area separation walls
provide EFFICIENT, ECONOMICAL FIRE PROTECTION

Gypsum board systems help builders maintain tight construction schedules the year-round

Gypsum Board Area Separation Walls

Effective fire resistance and sound attenuation have long been important considerations in the construction of multifamily dwellings, such as townhouses, condominiums, and apartments. Both objectives can be met inexpensively through the use of gypsum board area separation walls—sometimes referred to as fire walls, party walls, or townhouse separation walls. Gypsum area separation walls are easy to erect and secure, meet all building code requirements, and have fire-resistance ratings that easily reach two hours or more.

Gypsum board area separation wall systems weigh no more than 10 pounds per square foot when erected—far less than alternate construction materials. In most cases, gypsum board's light weight eliminates the need for costly footers or foundation modifications. In fact, many systems can be erected directly onto a poured concrete slab. And, thanks to their relatively light weight, they can be installed up to four stories in height, depending on the manufacturer.

Gypsum
Board
Taking safety and efficiency to new heights

www.gypsum.org

GYPSUM ASSOCIATION

A Live Fire Test

Robert Brown, the Executive Vice President of the Barness Organization, a leading homebuilder in Southeastern Pennsylvania and Southern New Jersey, offers this on gypsum area separation walls: "As a builder, nothing is more important than the safety of our home buyers. So we make sure that the building materials we use can effectively resist or contain a fire.

"About 12 to 15 years ago, we encountered a local township that had no history of working with gypsum board area separation walls; thus, town officials were skeptical of the ability of the systems to perform as designed. Our experience with gypsum board area separation wall systems indicated otherwise, so we decided to show town officials how well they worked.

"We constructed an 8' x 16' building and divided it in half with an eight-foot high gypsum board area separation wall. Under the watchful eye of the local fire department, we set the test facility on fire. The gypsum board area separation wall system performed well beyond expectation, and we were able to sell the project to town authorities as planned. Admittedly, it wasn't a completely scientific test. However, it confirmed our belief and convinced local fire officials that gypsum board area separation wall systems work as designed. We still believe that today."

Complying with codes

Any area separation wall must meet certain basic requirements. It must be:

- Continuous from the foundation to the underside of the protected roof sheathing or continue through the roof to form a parapet, and
- Designed to allow for collapse of the construction on the side of the wall exposed to fire without collapse of the separation wall.

Every model building code recognizes the suitability of gypsum board area separation wall systems for resisting fire and attenuating sound. Both solid and cavity-type area separation walls achieve sound transmission class (STC) ratings that exceed model building code requirements; certain wall system designs provide STC ratings in excess of 60.

Though gypsum has inherent fire-resistive qualities, each model building code mandates that any wall system used for area separation must first be fire tested according to a specific test standard, such as ASTM E 119, "Standard Test Method for Fire Tests of Building Construction and Materials," or its equivalent.

Solid gypsum area separation walls

Gypsum board area separation wall systems come in two designs: solid systems and cavity-type systems. Cavity systems are constructed with components typically incorporated into either steel stud partition systems, or gypsum board shaft wall enclosures, such as those used to enclose an elevator shaft or duct shaft in a multistory nonresidential building.

Solid gypsum board-type area separation wall systems incorporate three basic components:

- One-inch-thick type X gypsum board liner panels that are 2-feet wide and either 8-, 10-, 12- or 14-feet long.
- Metal framing members, consisting of 2-inch-wide H-studs and U-shaped track.
- "Breakaway" L-shape aluminum clips that soften at relatively low temperatures.

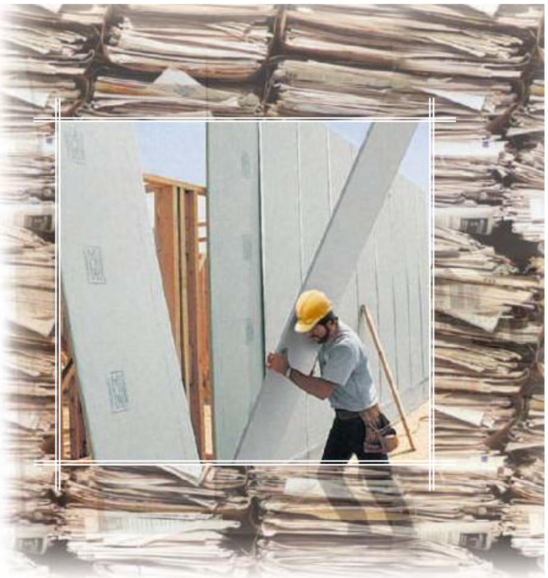
A construction worker attaches an aluminum clip that connects the area separation wall to the adjacent wood frame structure.

For two-hour fire resistance, the area separation wall consists of two layers of 1-inch- thick liner panels. The panels slide into a horizontal track at the foundation or floor level and into the vertical studs that hold them in place. An inverted section of track caps the wall.

To continue the wall higher, a track is fastened to the capping track of the lower wall. The stacking process repeats until an inverted track caps the completed final story or roof parapet.

L-shaped aluminum clips attach the gypsum board area separation wall to the adjacent wood frame structure. The clips attach to both sides of each H-stud at each floor or roof/ceiling intersection to provide lateral support for the area separation wall. The clips are designed to soften and break when exposed to high temperatures on the fire side.

Gypsum board area separation wall liner panels can easily be trimmed with a power saw or knife to meet any size requirement.



Gypsum Board: A ‘Green’ Building Material

More than 40 years ago, long before recycling became popular, the gypsum industry began recycling newsprint and other paper to manufacture the paper facing for gypsum board. Today, nearly 100% of the paper used in the manufacture of gypsum board face and back paper comes from newsprint and consumer waste materials.

Gypsum board manufacturers also rely increasingly on “synthetic” gypsum as an effective alternative to natural gypsum. Synthetic gypsum results primarily from the manufacture of titanium dioxide used in paint and from the desulfurization of flue gases in fossil-fueled power plants. Today, gypsum manufacturing plants can be found adjacent to power plants, making immediate use of synthetic gypsum and, in turn, reducing the amount of fuel that would otherwise be expended in transporting the raw synthetic material.

Gypsum
Board
Taking safety and efficiency to new heights

www.gypsum.org

GYPSUM ASSOCIATION

Gypsum Board Roof Underlayment

Using gypsum board underlayment in a roof system offers a significant increase in fire protection when used in conjunction with a gypsum board area separation wall. The codes generally allow for the elimination of a parapet in townhouse or apartment construction when a roof is covered with a Class B or C roofing material and where a layer of 5/8-inch-thick type X gypsum board is placed immediately beneath combustible roof sheathing for a distance not less than four feet on either side of the area separation wall.

Three methods of installation have been developed that comply with the code-accepted language that allows a parapet to be eliminated when gypsum board underlayment is installed: the ledger strip method, which uses 2' x 2' wood strips attached to the roof framing to support gypsum underlayment placed between the rafters; the partial roof underlayment method, in which the gypsum underlayment extends four feet beyond the area separation wall in both directions; and the full roof underlayment method, in which gypsum underlayment is installed over the entire roof surface under the sheathing. Although model codes generally permit any of these methods as an alternative to parapet construction, individual code provisions may vary.

The Gypsum Association's publication, GA-276-97, *Gypsum Board Roof Underlayment for Multi-Family Construction,* contains a complete discussion, including illustrations, on the use of gypsum board underlayment. A copy of GA-276 can be downloaded from the Association's Web site at **www.gypsum.org**.

During an intense fire, when one side of the wall system experiences temperatures of 1100°F or higher, the clips will soften and break away. In this way, the adjacent structure on the fire side may collapse without pulling down the fire-resistive separation wall. The clips on the opposite side of the area separation wall remain intact, since temperatures on that side will be far below the point at which the clip will soften. As a result, the fire-resistant wall system will remain standing, sparing the adjacent living space from significant damage.

In short, gypsum board area separation walls offer an excellent low-cost solution for separating townhouses, condos, and apartments. They can be erected in all seasons since there's no cure time involved, and can usually be assembled by the drywall contractors or the carpenters, reducing the number of trades required on the job. Finally, they are code compliant for both fire resistance and sound attenuation. Why use anything else?

Gypsum
Board
www.gypsum.org
Taking safety and efficiency to new heights
GYPSUM ASSOCIATION

CIRCLE 35 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

paint on surprise.

SW 7742 | AGATE GREEN
from the *Concepts in Color*™ collection

Want to give your space a startling new twist? Want to evoke a feeling that's now and wow? With our colormix™ '08 forecast colors, you can achieve your vision. To order large size color samples and fan decks, go to sherwin-williams.com or contact your local Architectural or Designer Account Executive.

SHERWIN WILLIAMS.

sherwin-williams.com
Architect and Designer Answerline 800-321-8194

©2007 The Sherwin-Williams Company

CIRCLE 36 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Beauty with substance.
Durable Teragren® bamboo floors meet stringent international and U.S. environmental standards. Unlike importers, Teragren controls manufacturing from harvest to distribution for consistent quality.

Synergy Java strand bamboo: extra-hardness for high-traffic residential and commercial interiors

Versatile style.
Grain, color and stain choices, plus matching stair parts, cabinet panels and veneer, suit a variety of design styles. Custom orders available.

Signature Naturals vertical grain Caramelized

Safe and renewable.
Manufactured with environmentally safe materials from rapidly renewable Optimum 5.5™ Moso bamboo.

U.S. GREEN BUILDING COUNCIL MEMBER

Synergy strand bamboo
U.S. Patent 5,543,197
Mexico Patent 204281

Your vision.
Teragren bamboo.

Teragren®
Fine Bamboo Flooring, Panels & Veneer

Signature Naturals vertical grain Natural flooring, custom stair treads and risers

For samples and information, visit
www.teragren.com or call **800.929.6333**

©2007 Teragren LLC. All rights reserved.

CIRCLE 37 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

For and about
the emerging architect

archrecord2

Making the most of challenges is what architects do, and this month we found a young Paris-based firm, Beckmann N'Thépé, whose fresh take on design is creating waves despite the local leaning toward established firms. We also meet the winners of a competition that turns an insect epidemic into an opportunity to innovate. **ONLINE:** *Is making a name among established architecture firms the biggest challenge for young architects? Respond at* **construction.com/community/forums.aspx**.

Design

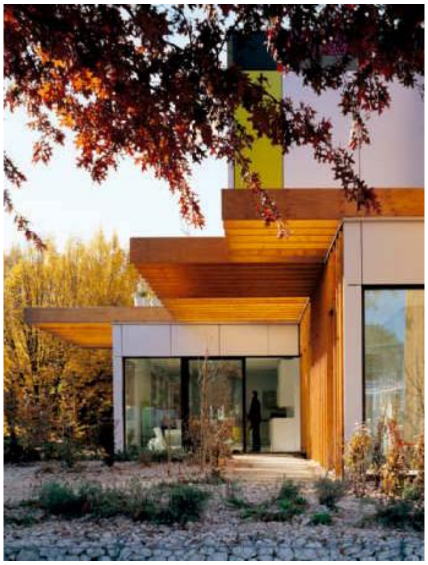
Beckmann N'Thépé: Exceptional in Paris

It's always difficult to be a young architect. But Françoise N'Thépé and Aldric Beckmann, founders of Paris-based firm Beckmann-N'Thépé, say the challenges are especially acute in France, due to a strongly established hierarchy and a conservative outlook on experimentation, especially toward those without much experience. "People don't want their money to be spent by 'amateurs,' " says N'Thépé. The situation is even more difficult for her, since she is a woman and a minority (she was born in Cameroon). "Yes, I sometimes feel myself as an exception," she says.

But despite the obstacles, their firm, started in 2002, has already been able to amass one of the most impressive collections of new work in Paris. This includes a social housing tower in the southeast of the city; an extension of the Versailles School of Architecture; a model house in the Parc de la Villette; a future town hall for the city's 17th arrondissement; and a redesign of the Parc Zoologique de Paris, in Vincennes (an eastern suburb of Paris).

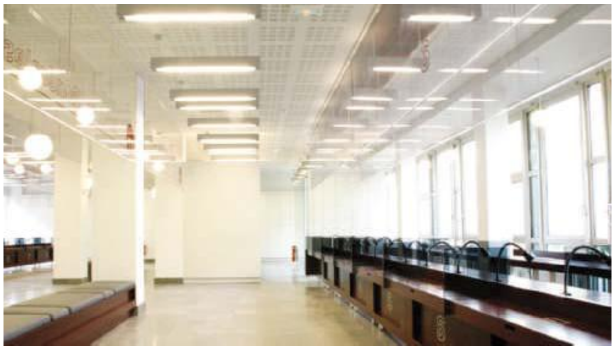
N'Thépé studied at the Ecole Spéciale d'Architecture in Paris (she originally wanted to be an interior designer, but amazingly she signed up at the wrong school!), where she studied with French architects Odile Decq, Paul Virilio, and Frédéric Borel. She worked for French/German firm LIN. Beckmann, born in Paris, studied at the Ecole d'Architecture Paris la Seine, and worked for architects François Seigneur, Will Alsop, and Jean Nouvel. The two met at Seigneur's office, where N'Thépé was freelancing.

Their first big break came when they won the Nouveaux Albums des Jeunes Architectes Award, a major prize organized by the French Ministry of Culture, in 2001. The requests and contacts that came after this allowed them to formally start their new firm the following year.



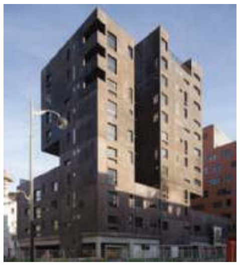
La Villette, Paris, 2003

A prototype house inside the Parc de la Villette in Paris. The "infinite" wooden house—evocative of artist Sol Lewitt's sculptures—is made of thin repeating wood columns and beams.



Mairie du 17ème Arrondissement, Paris, 2007

The renovation of this neighborhood town hall will refit a 1960s building with glass partitions and light screens, opening the space to light and air.



Masséna Apartments, Paris, 2007

For public housing in a large development zone called Paris Rive Gauche, a large open space cut into the center maximizes natural light.

IMAGES: COURTESY BECKMANN N'THÉPÉ (PORTRAIT AND BOTTOM LEFT); © A. RINUCCINI (TOP RIGHT); © STEPHAN LUCAS (BOTTOM RIGHT)

The firm has a strong interest in research and investigating new materials and new processes, combined with sensitive, intuitive design. Their buildings are unique, sculptural (N'Thépé says the firm has a "plastician" way of drawing projects), and even sexy, but they all feel strongly rooted in their locations. "Our first approach to architecture has always been about how cities function," says N'Thépé. "We're very aware of how our 'sculptures' emerge, about the context and the stories we want to create."

With its Versailles project, completed in 2005, the firm made small changes throughout the Classical-style school, like spiral-shaped neon lighting, new skylights, and bright new colors. It also fit a bold translucent Teflon membrane on top of the building's courtyard, and created a futuristic new classroom with a translucent drop ceiling that projects fluorescent lighting patterns and colors. Their public housing project, finished this year in a tight development zone called Paris Rive Gauche, maximizes natural light through a large "fault" cut into its center. The Vincennes zoo project will use artificial materials like steel, Teflon, glass, and plaster to create naturally inspired forms, such as massive rocks and a bubbly, translucent greenhouse dome. The firm, which has also stayed busy participating in exhibitions in Paris, Bordeaux, and Brazil, is now looking to branch out in both architecture and urbanism, "especially abroad," says N'Thépé. So, if all goes according to plan, there will be a whole new set of hierarchies and expectations to defy. *Sam Lubell*

Parc Zoologique de Paris, Vincennes, 2010
Artificial materials like steel, Teflon, glass, and plaster will create naturally inspired forms such as massive rocks and a bubbly, translucent greenhouse dome.

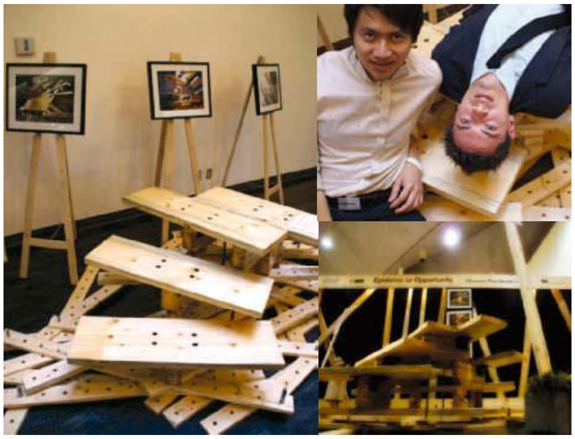
ONLINE: To view additional photos and projects by Beckmann N'Thépé, and to comment on this article, go to **architecturalrecord.com/**archrecord2/.

Work

Mountain Pine Beetles: epidemic or opportunity?

The Mountain Pine Beetle is altering the landscape of British Columbia's forests, infesting pine trees and staining the wood blue. It is estimated that within the next 10 years, 80 percent of the pine forests in British Columbia will be infested, as warm winters have allowed the beetles to multiply at alarming rates. Since there is no solution to this problem currently, the wood industry must develop a new system to harvest the wood, which remains structurally stable if harvested within three years of infestation.

While some view the Mountain Pine Beetle situation as an epidemic, others recognize an opportunity for architects and designers to create a market for a new and unique product. A competition, sponsored by the Architectural Institute of British Columbia (AIBC), the Interior Designers Institute of British Columbia (IDIBC), BCWOOD, and *The Vancouver Sun*, was held as part of the Interior Design & Urban Living Expo (http://www.dvexpo.ca) in Vancouver, and eight finalists were chosen to create consumer facing or architectural applications for the wood. Competition organizers hoped to give pine wood an image overhaul in the same way that Alder wood, which was considered a "weed wood" 15 years ago, is now popular with designers.



In 2007, designs by Tseng and Amin (top right, left and right, respectively) were displayed at Design Vancouver and the AIBC Gallery Show.

Most participants designed furniture using the Mountain Pine Beetle wood, including chairs, room partitions, and coffee tables. Vancouver-based intern architects Abdel Munem Amin and David Yi-Jen Tseng created the only architectural response to the competition—a modular stair titled Six Steps: Blue Modular. In line with the competition's call for mass-market applications, the stair can be reconfigured to accommodate any orientation or distance between floors. "We played around with the texture of the stained wood to maximize the uniqueness … [it] adds a new dimension to the story that this wood tells," Amin explained.

Amin and Yi-Jen Tseng met while attending architecture school at McGill University and hope someday to form a partnership and establish an international practice that combines their passions for discovering new cultures and places and designing regionally sensitive architecture. Abdel, a Czech-born Palestinian who has spent time in Japan and Jordan, is intrigued by the psychological implications of space. Born and raised in Taiwan, Yi-Jen Tseng traveled and worked as a freelance graphic designer in Asia for several years, designing CD albums, logos, and packaging, and Web sites, in addition to his architectural experience with residential interiors and boutique hotels. *Murrye Bernard*

ONLINE: To view additional photos of Amin and Tseng's winning design, and to comment on this article, go to **architecturalrecord.com/**archrecord2/.

IMAGES: COURTESY BECKMANN N'THÉPÉ (TOP TWO);
ABDEL MUNEM AMIN AND DAVID YI-JEN TSENG (BOTTOM THREE)

THE BEAUTY OF POWER
© 2007 BSH Home Appliances
THO066-14-80867-1

THE FIRST BUILT-IN OVEN WITH TRUE PROFESSIONAL PERFORMANCE.

Power can be a beautiful thing, especially when that power elevates your luxury kitchen projects to new heights of sophistication. The capabilities of the new Professional Series ovens let you bring your customer's dream kitchen to life. And its seven unique configurations, including Thermador's exclusive triple-combination oven, give you the flexibility to create kitchens that will satisfy even the most demanding clientele. Thermador—empowering the cooking enthusiast for 75 years.

WWW.THERMADOR.COM 1-800-735-4328

Thermador® | An American Icon™

CIRCLE 38 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Perfect Match & Math For Your Multi-Housing Projects.

Prefinished wood doors*and Timely steel door frames can save you over $100 per opening

Timely's "Perfect Match" program is the perfect cost-cutter for your multi-housing construction projects. This program shrinks costs by combining interior wood doors with Timely steel door frames that are *prefit, prefinished, and color-matched*. This eliminates costly jobsite door and frame painting.

Flexibility is maximized by your choice of doors and Timely door frames. No wood subbuck is required for steel construction, either. And faster, easier installations can be scheduled after walls are painted.

Call Timely's Marketing Services Dept. or your Timely distributor for complete details. Everything you need will be delivered in one complete turnkey package. Timely and Multi-Housing Constuction. Another "Perfect Match."

TIMELY®
PREFINISHED STEEL DOOR FRAMES
A DIVISION OF S.D.S. INDUSTRIES, INC.

PHONE 800-247-6242
FAX 818-492-3530
www.TimelyFrames.com/ar

Free on-line continuing education.
Learn on-line and earn free credits.
For CAD drawings: CADdetails.com

www.aecdaily.com
AEC*DAILY*

© Timely 2007 *Doors supplied by door manufacturers

CIRCLE 39 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Big Brother hitches a ride with a congestion-pricing scheme

Critique

By Michael Sorkin

As part of his recently released plan for New York by the year 2030, entitled *PLANYC: A Greener, Greater New York*, Mayor Michael Blooomberg is actively promoting a scheme for congestion pricing in the busiest parts of Manhattan. Modeled on programs in Singapore, London, and Stockholm, the system is intended to curb vehicular traffic (and raise money for public transportation) by imposing charges ($8 for cars and $21 for trucks) to enter the borough below 96th Street. The proposal has the support of virtually every *bien-pensant* urbanist in town, although it has met some resistance, particularly from the outer boroughs and suburbs where car dependence is highest and public transport thinnest. And there are many who suggest that the burden of the charges will fall disproportionately on the poor.

I certainly support radical measures to reduce traffic in Manhattan, and congestion pricing has a good track record in the cities that have tried it. But there is something disquieting about the system. The arguments that it will be a trivial burden to the man in the Mercedes and a serious one to the busboys in the battered banger have real merit. But what really chills me is the means by which the system will be run. As in London, routes into the city are to be monitored by cameras that will photograph all incoming cars and record their license numbers, information that will be used to generate the necessary billing. And the system will presumably be capable of other levels of photographic observation and will surely be linked to other networks and databases administered by our anxious state.

Contributing editor Michael Sorkin runs his own design studio and is the director of the urban design program at City College of New York.

Tracking cars and people

Earlier this month, the front page of *The New York Times* carried a story headlined, "Police Plan a Web of Surveillance for Downtown—Like London Ring of Steel—A Call for 3,000 Cameras—New York Seeking More Antiterror Aid." These cameras would join close to 5,000 private and public security cameras already in operation in Lower Manhattan. Technologically speaking, the plan is identical to the apparatus for congestion pricing—for its reliance on cameras and license-plate scanners; its potential to incorporate face recognition software and other suspicious algorithms; and the massive, largely unregulated, database it will compile. While the police disingenuously offer that a closed-circuit TV camera on the street is equivalent to an additional cop on the beat, civil libertarians suggest that there is an important difference between simply being observed in a public place and having information about your movement, activities, and whereabouts recorded, stored, and shared.

The authoritarian risks of such systems are thrown into particular relief by their congeniality to more unabashed authoritarian regimes.

A congestion-pricing plan in New York would require cameras around the city.

PHOTOGRAPHY: © LEON NEAL/AFP/GETTY IMAGES

The Chinese government is in the process of installing more than 20,000 CCTV cameras in the city of Shenzhen (with face-recognition software provided by a U.S.-financed company, China Public Security, incorporated in Florida) that are to work in tandem with new I.D. cards for all residents.

Storing lots of information

These cards will have embedded chips (again with software from China Public Security) that are to contain staggering amounts of information, including work, credit, and reproductive histories; religious and ethnic data; medical insurance status; transit payments; landlord phone numbers; police records; and room for lots more. And the Shenzhen police already have the capacity to track the location of all cell phones in use in the city. Clearly, such invasive systems threaten any reasonable idea of a right to privacy.

This transformation is fundamental. Cities—and the organization of space in general—are key media by which we sort out the boundaries between public and private; the public side of the equation is increasingly squeezed. The dramatic acceleration of surveillance post-9/11 is one marker of the contraction, and police agencies—public and private—are enjoying virtual carte blanche to intrude both in the traditional public realm (the streets of the city) and in the private, as well. As geographer David Harvey observes, "The 'war on terror' has everywhere been deployed as an excuse to diminish political and civil liberties." The profusion of data-mining, phone taps, biometric screening, DNA testing, and other intrusive technologies are political and cultural developments of truly frightening implications, erosions of our most basic freedoms, including what Henri Lefebvre has famously called “the right to the city.” The supportive incorporation of “terror” as part of the standard repertoire of architectural and planning due diligence—like fire or seismic protection—is astonishingly sinister and far exceeds any simple utilitarian account. As a profession, we are far too compliant in advancing this threatening regime.

Spaces of free access

The contraction of the public realm, however, extends beyond these Orwellian developments. Public space is produced from the private: In democracy, the commons is always a compact about what is to be shared, what reserved; about where we choose to interact with the other. There’s been a lot of criticism from certain academic quarters about traditional notions of public space, about overidentifying the idea with streets, squares, parks, and other historic settings for face-to-face interactions. This critique is predicated both on the idea that these spaces fail to acknowledge the existence of multiple publics and that a purely spatial definition of public space is inadequate in the Internet age (or any other). While the idea of a one-size-fits-all public arena surely risks its own oppressions, spaces of free access are foundational to civil liberty; winnowing them, whether for nominally progressive or out-and-out reactionary reasons, is very risky. Public space that excludes the civic—supporting only private forms of exchange—puts our democracy under radical threat.

Consider Starbucks. The problem with Starbucks isn’t the instance but the aggregate. I’ve just returned from several weeks in the suburbs, and Starbucks was a lifeline. Not simply the only source of decent coffee for miles, it was also an oasis of conviviality with its comfortable chairs, free newspapers, and relaxed vibe. The Starbucks I frequented was part of a big shopping center, sandwiched with a couple of other smallish shops between a monster supermarket and a gigantic Lowe’s box. Not that we had no choices: Another local supermarket had a kind of satellite Starbucks right inside the store, along with a pharmacy, a bank, and various category-stretching elements of the supermarket itself: bakery, liquor store, deli, hardware, florist, and so on. Being there, I felt a little like Nikita Krushchev on tour, visibly staggered by the sheer scale of the operation and of the choices on offer in American capital’s most perfectly staged spectacle of consumption.

A genuinely public realm

The problem with the suburbs (and, increasingly the city) lies both in the homogeneity of their formats and the frequent elusiveness of a genuinely public realm, the fact that a coffee always comes from Starbucks or Dunkin’ Donuts and that the street on which these stores sit is always a parking lot or supermarket aisle. The difficulty is not the lovely houses and gardens in the suburbs, nor the qualities of neighborliness they can produce, but an interstitial tissue that is only negotiable by car. This is a toll even more severe than the downside of congestion pricing—financially, in the alienating effects of hours spent sealed up alone, and socially, for those people it excludes. Over years of visiting elderly parents in the suburbs, I have watched their possibilities contract in a system in which a carton of milk or a visit to a friend require an increasingly perilous drive on the highway.

It’s Sunday in New York, and I’ve just returned from a walk to buy a coffee—at Starbucks. There’s one a block away and, as I’ve mentioned, the coffee is tasty, despite the foolishness I feel when forced to order a “grande” instead of a medium. While strolling over, I’ve counted the security cameras on the single block between here and there. There are 15 visible to me. Fifteen. This paranoid voyeurism by the authorities surely contracts our relationship to the spaces over which we—whatever “public” we happen to belong to—exercise proprietorship and in which we feel comfortable and “at home.” The line between the friendly cop on the corner and Big Brother is not obscure.

STARBUCKS COFFEE
STARBUCKS COFFEE

In the suburbs, much of the public realm now resides in places like Starbucks.

PHOTOGRAPHY: © JAMIE RECTOR/GETTY IMAGES

Too high a price

I’d love to get some traffic out of the neighborhood, but those cameras may be too high a price to pay. Such are the ambiguities of unfreedom that the exclusion of cars on the one hand and their indispensability on the other can be servants of the same agendas of monitoring and control. At the same time, their use (or nonuse) remains emblematic of the freedom at the core of what makes both cities and suburbs desirable to their denizens. Technology is a human artifact, and its role in culture is neither autonomous nor neutral. I have no doubt that we are at a watershed not simply in terms of the way in which we deploy technologies of surveillance, mobility, and control, but that the character of the public realm is under enormous threat from both too much government intervention (by the get-government-off-our-backs creeps in power) and the concession of too much of the public realm to private interest. A shopping mall is not the same as a street, and a security camera on every corner is not your pal. ■

ONLINE: Will congestion pricing work in Manhattan? Answer at ***architecturalrecord.com/community/critique***.

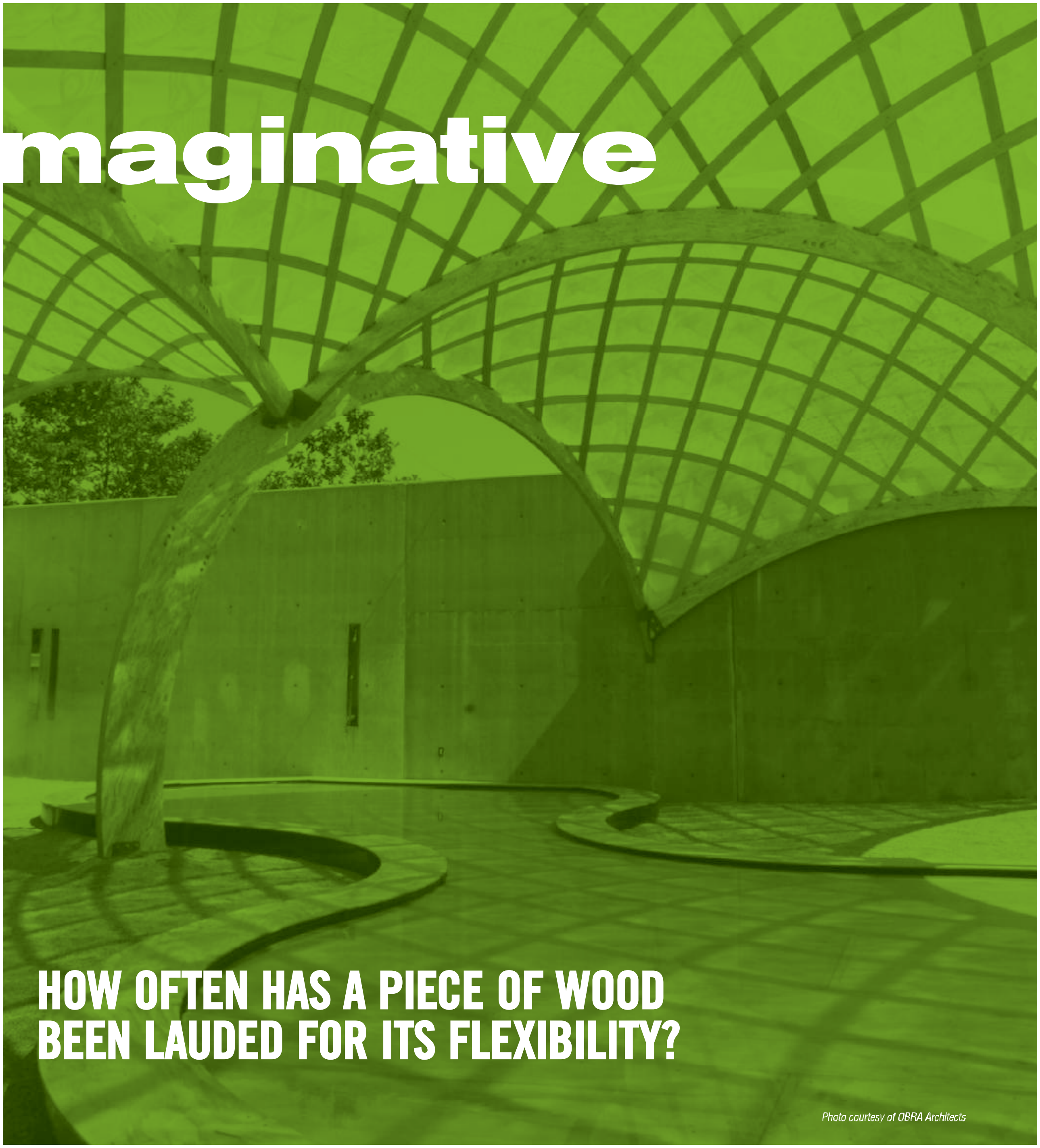

imaginative
HOW OFTEN HAS A PIECE OF WOOD BEEN LAUDED FOR ITS FLEXIBILITY?

Photo courtesy of OBRA Architects

The iLevel Way

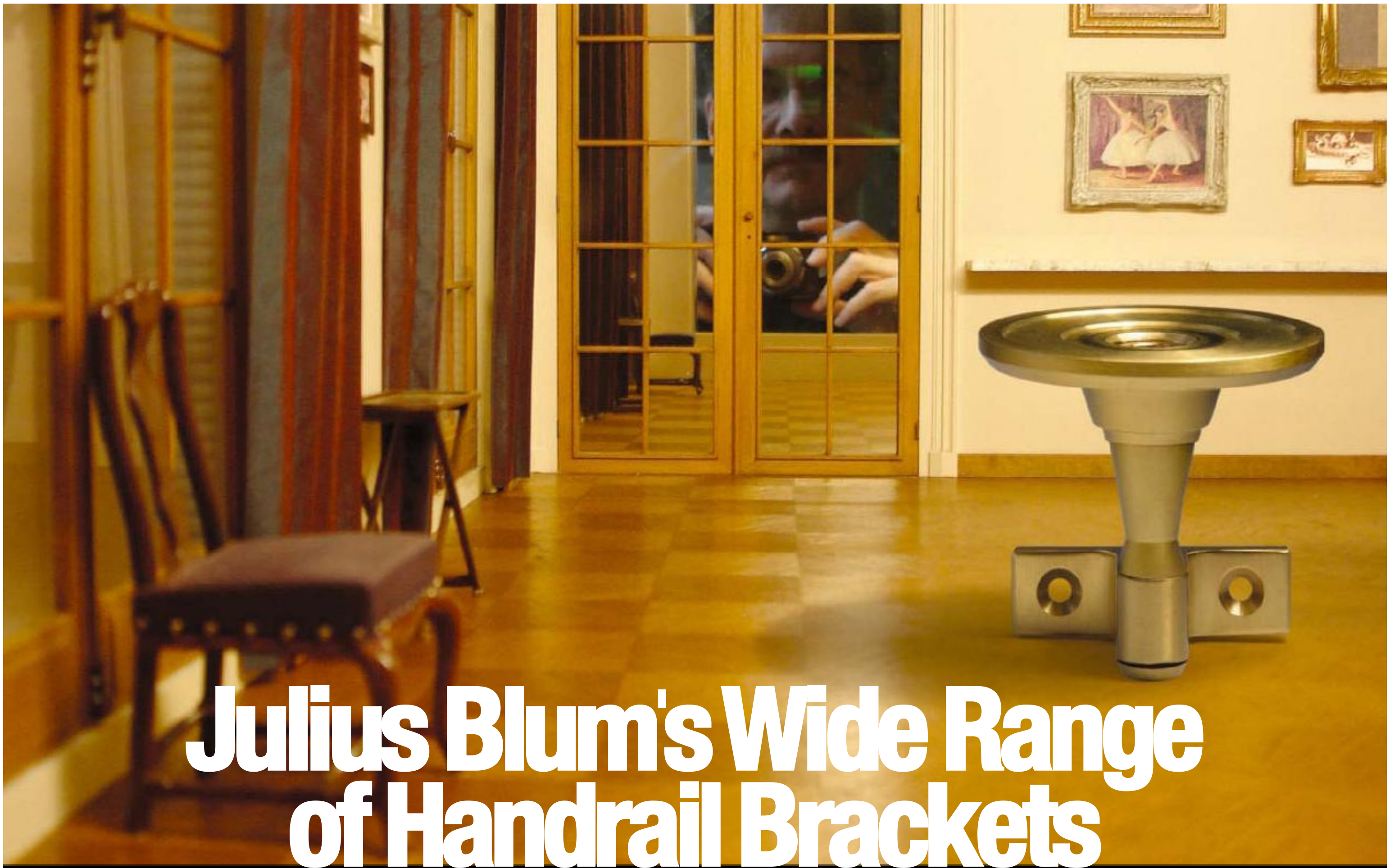
Design shouldn't adapt to lumber's limitations. That's why we're constantly pushing the boundaries of what wood can do. We engineer it for strength and flexibility. Develop software that opens doors to entirely new designs. And we do it all while upholding our reputation as environmental leaders – just what you'd expect from Trus Joist, Structurwood and Weyerhaeuser. To learn more, visit iLevel.com or call 1-888-iLevel8 (1-888-453-8358).

iLevel®
Trus Joist + Structurwood + Weyerhaeuser

Weyerhaeuser,® Structurwood,® Trus Joist® and iLevel® are registered trademarks of Weyerhaeuser Company, Federal Way, Washington. © 2007 Weyerhaeuser Company. All rights reserved.

Weyerhaeuser

CIRCLE 40 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



Julius Blum's Wide Range of Handrail Brackets

JuliusBlum&Co.Inc. is proud to introduce NEW products 9977, 1088, 1087 and 842, to our extensive lines of handrail brackets. Bracket 9977 is made from extruded titanium, the new architectural metal. Utilizing the strength of titanium, it has a slimmer profile than similar products of other metals. Brackets 1088 and 1087 are cast stainless steel with satin finish. They are both attached to the wall with a single, stainless ⅜" mounting bolt through the wall flange center. Bracket 842 is a Carlstadt® self-aligning wall bracket machined from extruded bronze alloy CDA3850. Additional Carlstadt® post and wall brackets are available in aluminum, bronze, stainless and nickel-silver.

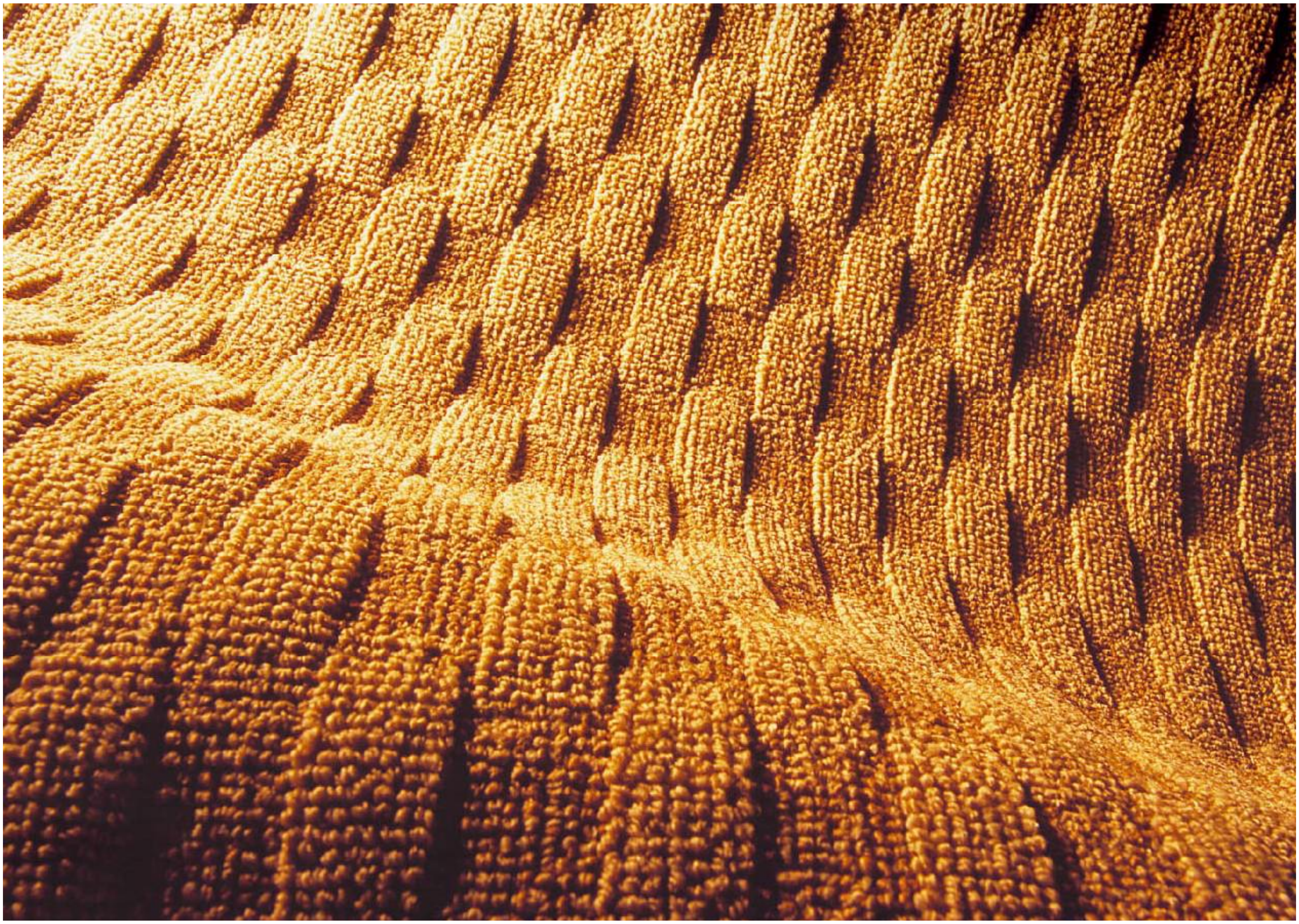
Email us at bluminfo@juliusblum.com today for your free copy of our current Catalog and accompanying CD to view our inventory in aluminum, bronze, nickel-silver, stainless steel, titanium and malleable iron. All items shown in our literature are carried in stock in large quantities for prompt shipment. Full product details and CAD drawings are also available on our website, **www.juliusblum.com.**

JuliusBlum&Co.Inc.

JuliusBlum&Co.Inc.

JuliusBlum&Co.Inc. P.O. Box 816 Carlstadt, NJ 07072 • 800 526 6293 • 201 438 4600 • Fax 201 438 6003 • www.juliusblum.com

CIRCLE 41 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



Keep telling yourself no one notices

You can't help but see it. The stolen glances. The smirks.
You know they're trying not to stare, but they just can't help it.
Embarrassed, you tell yourself it just doesn't matter what other people think.
But it's a lie. A horrible lie.

Don't spec ugly carpet.

Plateau from J&J Commercial. Good looks to be proud of.

Carpet: Plateau, Color: Cumberland - www.jjcommercial.com - 1.800.241.4585

J&J COMMERCIAL

Carpet for spaces that work.

CIRCLE 42 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

You Design It.
We Build It.

…all we add is plenty of expertise

ARCHITECTURAL METAL EXPERTISE
PERFORMANCE · TRAINING · STANDARDS

The Architectural Metal Expertise Team

CIRCLE 43 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Visit us at www.asm-expertise.com

Why bad things happen to good buildings

Commentary

By Victoria Newhouse

Architecture affects the viewer's perception of what is contained within it; depending on its design, a space can enhance or diminish the art and things it houses. Yet I have found that the reverse is equally true: that the choice and display of contents influence critical assessments of the container.

Museums are particularly vulnerable in this respect, given the constant interaction between users and spaces that must be adapted to changing shows. Additionally, when innovative architecture comes into play, exhibition requirements can take a back seat, especially in museums that function also as tools of urban renewal, tourist attractions, and even political appeasement.

Three recent museums and an exhibition hall illustrate the issue. Daniel Libeskind's Jewish Museum in Berlin (1998) and Richard Rogers's Millennium Dome (1999) in London both suffered from the poor selection and display of their contents. Meanwhile, the Glass Pavilion by Kazuyo Sejima and Ryue Nishizawa of SANAA at the Toledo Museum of Art (2006), in Ohio, and Renzo Piano's Museum of Contemporary Art in Lyons (1995), France, have been affected by other aspects of their use.

Good design—no matter how unconventional—can always function successfully given patience and perseverance in adapting to it. During a recent visit to the High Museum in Atlanta, I expressed surprise, following initial problems with displays, at how well Richard Meier's 1983 building worked. Marge Harvey, director of architectural design, responded that it had taken 20 years to learn how to use the building. A recent renovation by Lord Aeck & Sargent improved the glazing of skylights and windows so they could be uncovered for the first time. Says Harvey, “We now know how to use the open spaces, the vistas, and the columns to the advantage of the artwork, grouping paintings, sculpture, graphics, and decorative arts, and using wall colors to complement the objects.”

Victoria Newhouse is the author of three books: Wallace K. Harrison: Architect; Towards A New Museum; *and* Art and the Power of Placement.

For the 18 months that the Jewish Museum in Berlin was open to the public with nothing in it, the building was acclaimed as a masterpiece. Among other accolades, Jane Kramer in *The New Yorker* called it “the most powerful building to go up in Berlin in the past 10 years.” However, with the permanent exhibition in place, the building was denounced in the local press as “a built horror.”

The change of opinion comes from misuse similar to that of Frank Lloyd Wright's Guggenheim Museum in New York City (1959). At the Guggenheim, cramming large-scale works (Mark Rothko and Ellsworth Kelly come to mind) into bays designed for relatively small easel paintings and sculptures has produced ongoing criticism of the space's ability to exhibit art satisfactorily. Likewise, at the Jewish Museum, overloaded galleries created a visual cacophony that obscured the building's merits.

At the Toledo Museum of Art's Glass Pavilion designed by SANAA, a simplified curtain scheme minimizes the impact of the building's transparency.

PHOTOGRAPHY: © CHRISTIAN RICHTERS

Libeskind repeatedly said that in Europe, where the Holocaust took place, he wanted to avoid the kind of literalness needed in the United States to convey faraway events, an approach James Freed used so successfully at the Holocaust Memorial Museum in Washington, D.C. (1993). So the recent comment to me in a private conversation by the director, W. Michael Blumenthal, a former secretary of the U.S. treasury, that he chose the U.S. institution as a model for the exhibitions in Berlin presents a distinct irony.

Blumenthal admits that “aesthetically, Berlin's was not the most beautiful exhibition in the world.” The point came home to me on a recent visit when I compared the first permanent exhibition galleries with one that was redesigned in 2005 by the firm of Bertron Schwarz Frey (BSF).

Any unconventional space spooks curators committed to white-cube galleries. Rather than fight these conditions, BSF embraced them. Libeskind's oddly shaped windows that had been covered over were opened up (ultraviolet filters, drawers, and a walk-in cube provide light protection), and freestanding rectilinear displays now contrast with the building's asymmetrical spaces. Key objects, such as a romantic oil portrait of Albertine Mendelssohn-Bartholdy, are highlighted in niches and vitrines within thick, opaque-glass walls—one of several clear and elegant presentations that harmonize with the container.

At Libeskind's recently opened Denver Art Museum [RECORD, January 2007, page 84], Daniel Kohl, the in-house designer, employed a similar strategy. His colored partitions stand clear of the asymmetrical exterior walls, providing traditional display conditions when needed. In some cases, contemporary paintings hang directly on slanted walls on which they seem to float. The surprise of a large Louise Bourgeois sculpture hanging behind a corner is one of several instances of Kohl's contention that the building encourages exploration and discovery.

Poorly conceived displays were responsible to an even greater degree for what *Domus* magazine called the "unanimously catastrophic" reviews of London's Millennium Dome [RECORD, December 1999, page 78]. Instead of the innovative architecture envisaged for the 12 pavilions inside the Dome, all but three were commercially designed and looked like they belonged at a corporate trade fair. Even more damning were the subjects chosen for the pavilions: Instead of the original concept of canvassing the British public for ideas, a government-appointed Millennium Commission designated elusive themes such as "faith" and "shared ground" related to the Labour Party's "new values." Of the three architects who attempted novelty—Nigel Coates, Eva Jiricna, and Zaha Hadid—only the formidable Hadid was able to retain control of the interiors (in her *Mind Zone*). Responding to my question about what happened, Rogers said simply, "Lack of leadership. A good building needs a clear vision, and a committee has no vision."

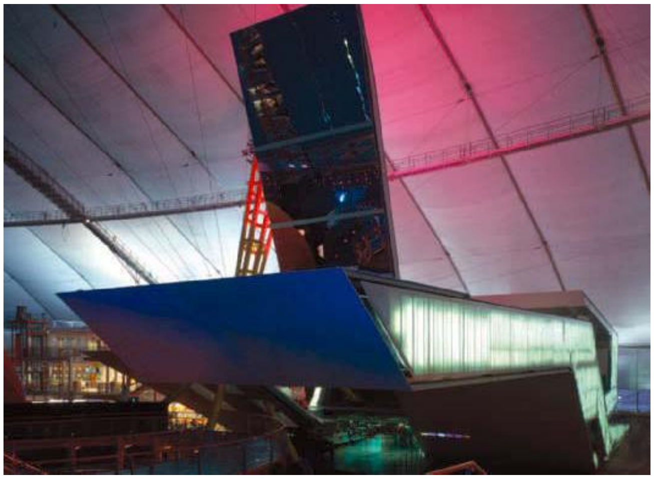
The critics' trashing of the Dome's contents completely overshadowed Rogers's extraordinary engineering achievement and even prejudiced reports of its price. The structure's under-budget construction cost (43 million pounds) was constantly confused with figures of the whole Millennium enterprise (1.5 billion pounds) and with those of the Dome and its contents (758 million pounds).

A pavilion to house the renowned glass collection of the Toledo Museum of Art [RECORD, January 2007, page 78] presents a different but analogous problem. How do you display glass art in a glass container? Given their innovative use of structural glass in previous projects, Sejima and Nishizawa were a logical choice to design this stand-alone addition to an early-20th-century building. What they did was create a container that is a paean to the diaphanous quality of glass. Indeed, their Glass Pavilion exceeds all expectations in the unusual complexity of its apparent simplicity.

How surprising, then, to find in this incarnation of transparency and natural light galleries with heavy, densely placed casework at odds with the spirit of the architecture. Equally troubling are the uniform curtains that curators nearly always draw to protect galleries from sunlight. Although SANAA designed the curtain system, its effect is similar to that of being enclosed in a bathroom shower.

The architects had envisioned sparsely placed, see-through casework and thin textile curtains (developed with Petra Blaisse of Inside Out), which would be adapted to the particular functions of various areas and maintain the transparency and sobriety of the architecture. A translucent polyester voile, gray on the interior and silver on the exterior, was to serve galleries containing light-sensitive objects; a sturdier version was to shield the glass-making hot shops; and for the multipurpose room, an acoustically absorptive and shading curtain with a silver floral pattern on different backgrounds for interior and exterior was to be more festive. Cost considerations coupled with a new director and chief curator, though, resulted in the less expensive, uniform curtains that visitors see in the actual building.

Several people associated with the Toledo museum expressed reservations to me about the way the building is being used. However, record attendance has overshadowed these issues, as indeed it has with the issues at the Jewish Museum in Berlin.


Zaha Hadid's *Mind Zone* exhibition was a success at the Millennium Dome.

Designing with flexibility in mind would seem to be a way of avoiding such problems. This was what Piano did at the Museum of Contemporary Art in Lyons, a building meant to be changed by the user. Belonging to the multiuse Cité Internationale de Lyon, this part-renovation, part-new structure shows primarily site-specific contemporary art.

Thierry Prat, one of the museum's two directors, told me recently that he and his associate had asked the architect for a closed container with walls that appear permanent but can be infinitely reconstructed. Easily changeable walls and closely spaced ceiling tracks containing the technical systems have indeed allowed the galleries to be constantly reconfigured in a lively series of exhibitions. But because the museum has almost no budget for maintenance, Piano's signature detailing has almost disappeared. Together with a top-floor skylight that's permanently blocked and windows facing the lovely Parc de la Tête d'Or that are constantly screened, such actions and inactions have rendered the building a ghost of a Renzo Piano museum.

Fortunately, for every disjunction between user and used, there are abundant examples of harmony between the two. Small museums continue to crop up whose scale, light, and materials are tailor-made for private collections and exhibitions monitored by their owners. Richard Meier's Frieder Burda Collection in the little German spa of Baden-Baden is a fine example. Many of its walls and half-walls are perfectly scaled to a single work hanging on them, illuminated by controlled natural light, in some cases from skylights directly overhead.

Herzog & de Meuron's de Young Museum in San Francisco [RECORD, November 2005, page 82] also delivers a novel arrangement of public and gallery spaces penetrated by glass-enclosed courtyards. While most of the galleries—American, Oceanic, and African—are used to optimum effect, several of the largest 20th-century spaces still lack art objects commensurate with their scale.

Given the experimental nature of Jean Nouvel's Musée du Quai Branly in Paris [RECORD, February 2007, page 86], I was not surprised by a curator's estimate of three to four years to establish what she calls "the museum's rhythm." With the help of comments from the public, those in charge of this daring new building are already improving orientation, reconfiguring three of the 30 intimate "box" displays, and adjusting lighting.

It would seem that architectural integrity is preserved only when a building's users are committed to the designer's original intentions. Curators at the Jewish Museum in Berlin and to a certain degree the private enterprise now in charge of London's Dome (now called The O2) have shown this commitment; those in Toledo and Lyons, less so. ■

PHOTOGRAPHY: © NICHOLAS KANE/ARCAID

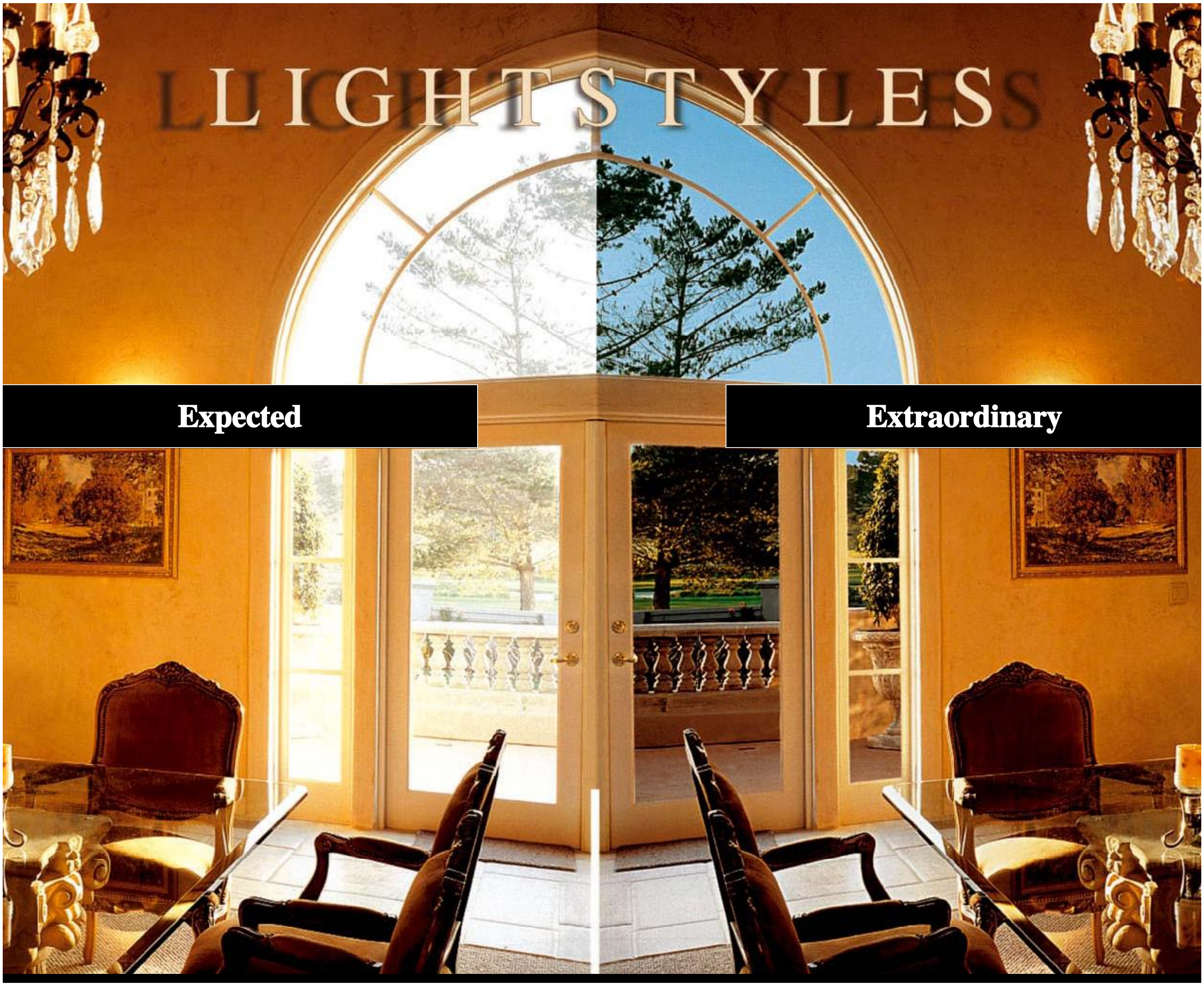
BOBRICK
BUILDING VALUE SINCE 1906

Order your complimentary SCRC vs. solid plastic test kit today.

Sierra™ Series Solid Color Reinforced Composite (SCRC) Toilet Partitions.

SCRC's non-ghosting graffiti removal and scratch resistance have been tested as superior to untreated HDPE, Metal and Polypropylene (ASTM: D6578-00; D2197-98 2002). Graffiti is easily removed on site using commercially available cleaners. Also, SCRC meets a Class B interior finish fire rating (ASTM E84). Independent test results available on request. © 2006 Bobrick Washroom Equipment, Inc., 800/553-1600, bobrick.com.

CIRCLE 44 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



Every choice should be this clear. VISTA® Window Film is the obvious choice for designers and discerning consumers who demand the extraordinary. Your priceless works of art, delicate fabrics, and carefully selected furniture all need VISTA's protection to block out virtually all the cumulative damage from ultraviolet rays as well as heat and glare. The choice is yours.

Expect the extraordinary.
For more information:
1-800-345-6088
www.vista-films.com

VISTA®
WINDOW FILM

RECOMMENDED SKIN CANCER FOUNDATION
ASSURED Clear Quality & Protection
ASID INDUSTRY PARTNER

The Skin Cancer Foundation has recommended VISTA as a device for ultraviolet protection of the skin.

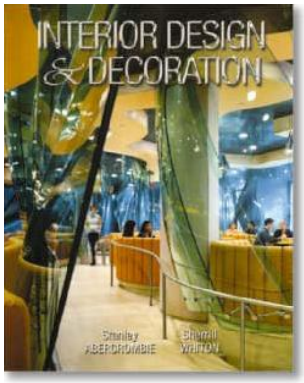
©2007 CPFilms Inc. VISTA® is a registered trademark of CPFilms Inc. • P.O. Box 5068 • Martinsville, Virginia 24115 • (276) 627-3000
The nature of certain delicate fabrics and dyes will lead to premature fading regardless of the application of any window film or any protective treatment.

CIRCLE 45 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Surveying the world of interiors and some dream worlds, too

Books

Interior Design & Decoration, *by Stanley Abercrombie and Sherrill Whiton. Upper Saddle River, N.J.: Pearson Prentice Hall, 2008, 697 pages, $150.*



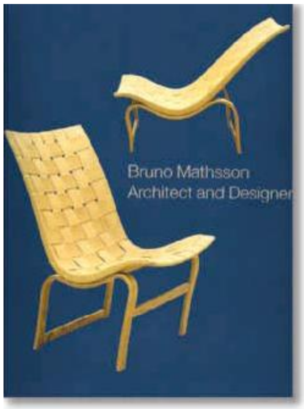
Interior Design & Decoration has been around for generations, even though Frank Gehry's cafeteria for the Condé Nast headquarters graces the cover. Sherrill Whiton, the Beaux-Arts-trained president of the New York School of Decoration, began a series of home-study guides to the decorative arts in 1916 and bound them together as *Elements of Interior Decoration* in 1937, and it has been the bible of interior-design-school students ever since. Stanley Abercrombie brought it up-to-date in 2002, and now again, in this, the sixth edition. (The book assumed its current title in 1972.)

The Whiton-Abercrombie survey is a readily accessible guide to the history of architecture and its allied arts. Beginning with Lascaux and running up through Russell Wright, Anni Albers, and SOM, the authors highlight the important buildings, materials, furniture, and crafts of the major periods. The ancient Western World and the Renaissance are joined by such Eastern cultures as India, China, and Japan; there is also a new chapter on Africa from prehistory to the present. There is a fat glossary (from Aalto to Zwischengoldglas—vessels with gold leaf between layers of glass) and an extensive bibliography.

A textbook with the term *decoration* in the title might prejudice a lot of architects, but it provides an easy way to reacquaint ourselves with those important things we learned a long time ago, like the Classical orders and the tatami system. Most of all, the book is a healthy reminder that architecture and its decoration used to be a unified field. Robert Adam, Schinkel, Richardson, and Lutyens, as well as Behrens, Mies, and Rietveld did not call upon the services of decorators.

Abercrombie may have brought *Interior Design & Decoration* a long way from its roots as a decorator's manual, but it does not begin to address the long-running ideological dispute beetween architects and "interior architects." This is more than sibling rivalry, for the stakes are high given the number of states where interior designers are seeking professional licensing. In vetoing legislation regulating interior design services, the governor of Indiana argued against regulation in part because it would limit competition. The Hoosier chief executive clearly understands that interior design is a business, while architecture is a profession. *William Morgan*

Bruno Mathsson: Architect and Designer, *by Dag Widman, Karin Winter, and Nina Stritzler-Levine. New Haven: Yale University Press, 2007, 224 pages, $60.*

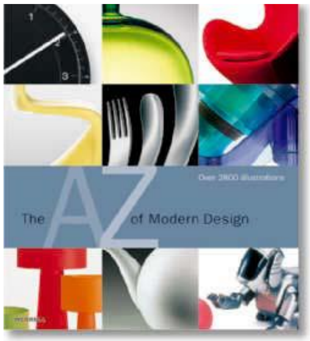


Bruno Mathsson (1907–88) is well known as Sweden's preeminent Modern furniture designer, and less well known as the designer of some 40 buildings, most of them houses constructed in the 1950s. This first English-language book on his prodigious output documents his achievements, providing the reader with hundreds of images and three authoritative essays. One essay, by the late curator Dag Widman, follows Mathsson's evolution as a furniture designer, beginning with an apprenticeship in his family's cabinet-making shop (he never finished high school) and his discovery of Alvar Aalto's work in Finland. Mathsson's furniture would become more anthropomorphic than Aalto's, with lush curves mimicking the human form. Edgar Kaufmann, Jr., brought Mathsson's work to America, first by purchasing 20 Mathsson chairs for the Museum of Modern Art In 1937; then by featuring his work in eight exhibitions from 1940 to 1955, when Kaufmann was MoMA's head of design. With Kaufmann's help, Mathsson also toured the U.S. in 1948, visiting the Case Study Houses under construction in California, including the one designed by Charles and Ray Eames.

Mathsson brought architectural ideas from the United States back to Scandinavia. His furniture designs, meanwhile, became part of post-war America's penchant for "Scandinavian Modern." But unlike other Modern furniture designers, including Eero Saarinen (who associated himself with Knoll) and Eames (who formed an important relationship with Herman Miler), Mathsson rarely let his pieces be produced outside his own factory in rural Varnamo. In the book's third essay, Nina Stritzler-Levine writes that this prevented him from achieving true stardom. But "shepherding prototypes through the manufacturing and marketing phases of design is an essential aspect of both a national and global design culture," writes Stritzler-Levine. It's a lesson few of today's young designers are likely to forget. *Fred Bernstein*

The A-Z of Modern Design, *by Bernd Polster, Claudia Neumann, Markus Schuler, Frederick Leven. London: Merrell, 2006, 540 pages, $35.*

Modern design, defined here as "the creation of objects with a practical function as well as aesthetic characteristics," is the fascinating soft underbelly of architecture. Anthologies such as *The A-Z of Modern Design* are part of the burgeoning industry that elevates humble yet elegant objects to museum-worthy classics: Fiskars scissors, an Olivetti typewriter, a Dyson vacuum cleaner, or a 1953 Studebaker



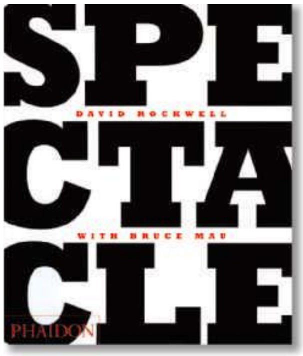
A-Z is one of the best of its genre. The book is informative, has good photography, and is affordable, making it a handy introduction to the subject. But, as the English version of a German edition, the volume is certainly Eurocentric. Although it claims to be the "most comprehensive reference available to international product design," its geographic bias implies there is little design of consequence in Asia beyond Japan, and none at all in Australia, Africa, or South America. The indubitably superior design sensibilities of the Finns, Italians, or Dutch aside, surely there must be handsome clocks, chairs, and lamps being created beyond Helsinki, Milan, and Rotterdam.

The book's abundant illustrations are seductive, but offer few real surprises. The selections, too, reflect the biases of the authors. Alfa Romeo, BMW, Ferrari, Citroën, and even Volvo get billing, but not Bugatti, Chrysler, or Cord. Eero Saarinen and Walter Gropius get one page each, Michael Graves and Eileen Gray get two. Pioneers Charles Rennie Mackintosh and Josef Hoffmann are included, but not Eliel Saarinen.

The A-Z of Modern Design raises some fundamental questions. For example, why do we fawn over Raymond Loewy's locomotive-inspired pencil sharpener but never his buildings? Why do we divorce the furniture of architects, such as Aalto or Wright, from their intended settings? Would it be unflattering to Frank Gehry's recent blockbuster buildings to furnish them with his modest early cardboard chairs? *W.M.*

Spectacle, *by David Rockwell and Bruce Mau. New York: Phaidon Press, 2006, 256 pages, $50.*

Spectacle is itself a spectacle, a beautifully photographed, smartly designed bit of entertainment. Compared to many other spectaculars that art publishers have put out in recent years, this 9-by-8-inch volume is modest in scale. But it does succeed as a splendid digest of some 20 perennial festivals around the globe while providing their cultural, historical, and political contexts.



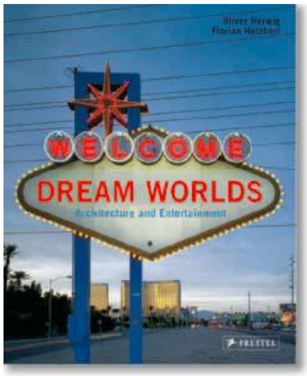
Above all, authors David Rockwell and Bruce Mau seem intent on having a good time: They shuttle from the Brussels Flower Carpet to the Macy's Thanksgiving Day Parade to the Florentine *calcio storico*, dousing the reader with relevant statistics and background information as they go along. They even include a 20-page calendar by way of an appendix, featuring an additional 100 days of hooplas and where to find them. It's fine to run fast and loose like this, but some things go by the boards; it's sad to see Guy Debord, who *had* written *the* book on the subject, relegated to a sidebar. And why, oh why, does the flag of the Soviet Union appear among the listed participants at London's Crystal Palace exhibition of 1851?

When architect José Luis Sert, historian Sigfried Giedion, and artist Fernand Léger produced their *Nine Points on Monumentality* in 1943, they imagined a new sort of spectacle, something graceful, spontaneous, modern, and democratic—an antidote to the slavish mass psychology of Fascist spectacle. Rockwell and Mau do not exactly abandon the cause, nor do they glory in the Nuremberg Rallies, but they do take the broadest possible view of their theme, without too much moral hand wringing. As befits our historical moment, this is spectacle in all its contradictions and ambiguities, a big brash Saturnalia for the world masses. With an afterword by Herbert Muschamp in the role of Funzo the Globetrotting Clown. *Ian Volner*

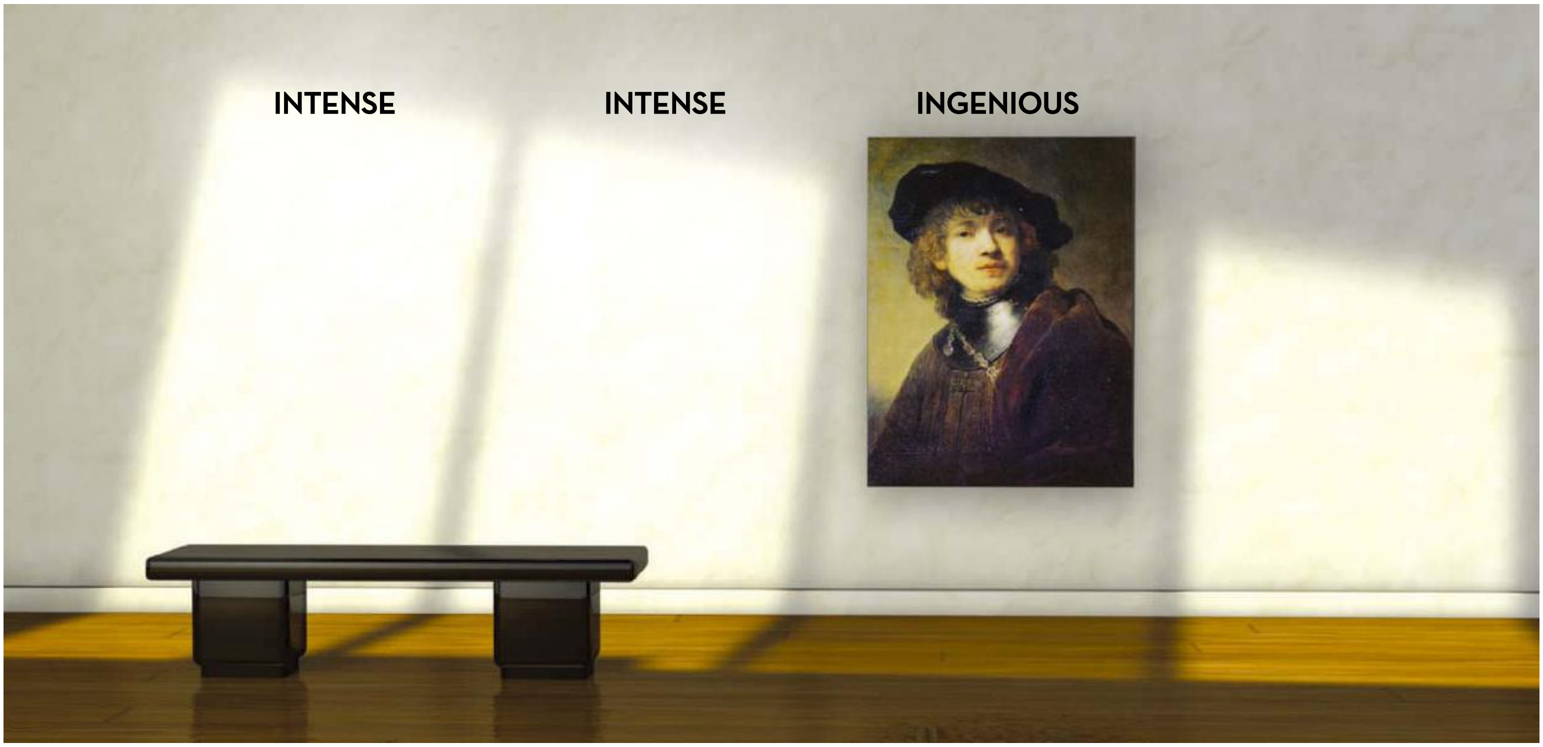
Dream Worlds: Architecture and Entertainment, *by Oliver Herwig and photographs by Florian Holzherr, Munich: Prestel Verlag/Publishing, 2006, 157 pages, $50.*

Oliver Herwig's *Dream Worlds: Architecture and Entertainment* is nothing a good editor couldn't whip into shape. As it is, this richly illustrated book is a landslide of information, poorly organized, often redundant, and at times, confusing. Herwig repeats a number of points, especially that dream worlds are now the new reality, brought into existence through technology.

Nevertheless, the book is a resource for those interested in knowing how Paolo Soleri's ideal city of Acrosanti might stack up against Disney's Celebration, or how Coney Island and Munich's Oktoberfest are (not-so) distant cousins. *Dream Worlds* convinces us that artifice is the allure that attracts people to such different diversions as Las Vegas and the Mall of America. The book also provides historic background for modern-day fantasy environments, citing Shangri-La, Atlantis, the Roman Coliseum, Sir Thomas More's *Utopia*, Paris's 1900 World Exposition, and many others. Herwig sees architecture as crucial to these places. "In the name of progress, architects emerged as the creators of new societies," he writes.



Through copious detail, the author hammers home his thesis: themed environments and fantasy worlds substitute for rather than imitate reality and are replacing the need or desire for cities. He ignores the recent revival of cities and fails to back his ideas with supporting documentation. Also, it is curious that he cites Michael Graves and Robert Stern as creating artifice at Celebration while ignoring Brasilia, no less an artificial creation. While the author is critical of how dream worlds control and manipulate us, in the end, he seems to throw his hands in the air, as though artifice and our addiction to it were an irremediable fait accompli. *Mason Riddle*



Introducing glass so brilliant it's destined to be a masterpiece.

SageGlass® glazing gives you the power to change your environment by doing what ordinary glass can't do: It switches from clear to darkly tinted at the push of a button. Now you can enjoy the sun's benefits while rejecting its undesirable effects such as fading, glare and heat without losing the view to the outdoors. This grants architects the freedom to design with more daylighting without the compromises typically associated with glass.

Because it blocks both the visible and UV light that cause fading, SageGlass glazing is ideal for museums, libraries and art galleries—anywhere there is a need to protect the interior while bringing in daylight. Revolutionary but not unproven, SageGlass technology has been tested for years by the U.S. Department of Energy with outstanding results.

Why limit yourself to conventional glass with add-on solar control devices? Dynamic SageGlass products offer true design potential, so architects can create their own masterpieces. To learn more **call SAGE Electrochromics, Inc. at 1-877-724-3321 or visit sage-ec.com**

SageGlass products are built with Pilkington TEC™ Glass. PILKINGTON

SageGlass technology controls sunlight to protect what's inside. It's the only product of its kind, providing 98% fading protection from both UV *and* visible light in its tinted state and 78% in its clear state.

The only glass that:
- Dramatically reduces all fading
- Actively controls daylighting
- Stops glare
- Dynamically controls heat gain

while always preserving the view and connection to the outdoors.

SageGlass®
The power to change™

CIRCLE 46 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Fiorella Radice Photo Romano Fotografie

Planus hinged door, designed by Antonio Citterio.
TRE-P&TRE-Più – Distributed by **Nova Studio International, LLC**
1 877 USTREPIU for the dealership nearest you www.trep-trepiu.com

TRE-Più

CIRCLE 47 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

YOU'D BE SURPRISED WHAT WE GO THROUGH TO PROTECT YOUR REPUTATION. Testing windows and doors is tough, and sometimes scary work. But someone's got to do it. At the American Architectural Manufacturers Association, we use independent accredited test labs to offer impact resistance evaluation of windows and doors as additional testing beyond resistance to air leakage, water penetration and wind pressure. What's more, AAMA Certification Program manufacturers submit to two surprise plant inspections a year as part of the program's quality assurance requirement. They also certify that the products you specify, when installed properly, match the quality of the sample product tested. No one is more committed to quality than we are. So ask for the AAMA certification. And make sure the product you specify – and your relationship with your client – both remain intact. To learn more, call 847-303-5664 or visit aamanet.org/certification.

AAMA®

AAMA STANDS FOR YOU.

CIRCLE 48 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

© 2007 AAMA

Service

Longevity

1957

1970

"Guidelines for Improving Practice,"
a publication of comprehensive risk
management advice, is first published.

1982

A specialized Risk Management Workshop
series is developed to address the need for
additional practice management information
on expanded services.

1996

Program-specific websites are introduced
at Schinnerer.com and PlanetAEC.com.

2007

An unrelenting commitment to an industry known for innovation. This has been our mission for 50 years.
For innovative insurance solutions, work with the experts. Visit www.PlanetAEC.com or call us at 301.961.9800.

CNA

BUILDING ON EXPERIENCE
50 YEARS

VICTOR O.
SCHINNERER
& COMPANY, INC.

CNA is a service mark and trade name registered with the US Patent and Trademark Office.
The program referenced herein is underwritten by one or more of the CNA companies. This information is for illustrative purposes only and is not a contract. ©2007.

[redacted]

Good leadership helps practice, the profession, and society

Practice Matters

By Andrew Pressman, AIA

"We're talking about somebody's life here. We can't decide it in five minutes ... We nine can't understand how you three are still so sure. Maybe you can tell us." —Henry Fonda as a juror in *12 Angry Men*

With just two brief quotes from this 1957 film classic, Henry Fonda's character—an architect—begins to emerge as the leader of a group of men who are deciding a capital murder case. He is the lone dissenter initially but eventually is able to persuade the other 11 jurors to reexamine the evidence and acquit on the basis of reasonable doubt. His successful strategies for leading the group include encouraging equal and inclusive participation and taking time to deliberate slowly. He considers the various agendas of the other jurors carefully so he can understand their perspectives, proffer persuasively, and then influence the outcome.

While participating in a group's decision about whether a person is guilty of a crime whose punishment would result in death is not a normal part of an architect's daily routine, and integrated practice teams not normally as unruly as that jury was, architects who are capable leaders hold great power. This is particularly evident today as new project-delivery methods, technology, and sustainability are transforming practice. It is useful to consider leadership in terms of scales of influence—from mentoring an intern, leading project teams, and directing community development to formulating national policy—all of which are essential to fulfilling our role as true professionals.

In college, architects learn how to think critically and go beyond the status quo to form meaningful new ideas. This training gives them the ability to see the big picture, reframe questions to see different perspectives, create innovative solutions to problems, attend to detail, manage and reconcile diverse and complex interests and relationships. Architects who lead effectively can leverage those assets to benefit their practice, the profession, and society.

Henry Fonda plays an architect in the film *12 Angry Men*, the story of a jury deciding the fate of a man on trial for murder. Initially, his is the sole vote against a conviction.

PHOTOGRAPHY: © GETTY IMAGES

Architects have the knowledge to address challenges such as those articulated by Rob Sheehan, Jr., academic director of Executive MBA and Executive Degree programs at the Smith School of Business at the University of Maryland: "What are the next strategic steps for our firm, where should our profession go, and what do we want our community to be like?" But how do architects mobilize people to act on that knowledge? Sheehan says, "Some see the question as, 'I know the right thing to do, now how can I learn how to interact with people so I can get them to do what I want them to do?' " Instead, Sheehan says the question should be, "I have some thoughts about what we should do; how can I effectively share my insights and what I care about with others while also authentically listening to their insights?" This suggests an attitude about leadership, one that requires, according to Sheehan, enough wisdom to know that someone else may have an even better idea.

Leading a practice

Ambassador Richard Swett, FAIA, author of *Leadership by Design* (2005), says, "Leadership is an essential skill that enables the architect to convincingly convey his or her vision to the client while imparting a sense of discipline, confidence, and concern for a high-quality outcome." A firm's leader will motivate others to follow and implement the vision with enthusiasm, says Swett, affirming conventional wisdom.

Insightful leadership can help firms gain a competitive advantage. Lately, nearly every firm has eyed the cultural changes that firms must undertake to transition to an integrated project delivery model successfully. Phil Bernstein, FAIA, vice president of AEC Industry Strategy and Relations at Autodesk, suggests such major shifts in the way firms work must begin with an acknowledgment that there are no easy answers in times of intensive innovation and redefinition of practice. He says, "Principals must have the courage to articulate a philosophy of practice that is consistent with their values as designers that reflects the new realities of an integrated approach: That design thinking now expands to include a much more holistic view of solving the owner's problem than just design intent."

Contributing editor Andy Pressman, FAIA, is a practicing architect and the author of numerous books on practice. He resides in Washington, D.C.

Bernstein says that supporting experimentation "on the front lines" is one leadership strategy for firm principals to "find the best avenues to success in integrated projects." Andrea Leers, FAIA, principal of Leers Weinzapfel Associates Architects, the AIA's Firm of the Year for 2007, agrees with Bernstein to the extent that her staff is encouraged to push beyond the firm's "present views." The entire studio is engaged in frequent design and process discussions, specifically about new technologies and project management. Leers says transparency and access of the staff to leadership are important parts of creating an environment that supports the firm's vision and mission.

Cultivating leadership from the ranks is another way to keep staff happy and challenged and sustain a firm's well-being for the long-term. Leers' firm achieves this by rotating administrative tasks among associates so that all have experienced most responsibilities, and gained an understanding of what it takes to run a practice in its totality.

Ongoing and frequent dialogue not only fosters collegiality and a collaborative spirit but can also stimulate innovation. Jim Oswald, a senior associate and senior business strategist within Gensler Consulting, shares Leers's perspective with regard to engaging staff to ensure their commitment to advancing the firm's goals: "Informal discussions held in staff meetings, individual coaching sessions, and conversations around the water cooler about the firm's strategic purpose and direction all help to strengthen staff's grasp of the 'why we do what we do' and proactively engage them in 'living' the firm's vision and goals through their work."

Exposing staff at all levels in the firm to clients as often as possible can be an effective approach to leading teams. William Rawn, FAIA, founding principal of William Rawn Associates in Boston, uses this approach. "This is a powerful way for staff to understand client and consultant goals, and why the principals are leading a project in a certain fashion. If they hear it directly from the client, they are truly invested in the project, which facilitates collaboration and a sense of control." The essence of Rawn's transparent leadership style is to engage the office with clients and consultants to impart the values—and reap the rewards—of teamwork. One of the firm's goals is to develop among all staff members the ability to listen intently to clients from the very start when they express what they need their project to do for them. Rawn believes engagement and inclusion translate into employee satisfaction and make his firm an interesting place to work. This is noteworthy in the context of today's tight labor pool, where retaining employees who are members of a talented, creative workforce presents special challenges.

Leading the profession

Doing and advocating excellent design, however broadly "excellent" is defined, is one key to leading change within the profession. According to Kate Schwennsen, FAIA, associate dean of the College of Design at Iowa State University, "Architects need sophisticated tools, compelling evidence, and accessible knowledge to do good work and thus to lead." So creation of knowledge and its wide dissemination should be distinct goals of leadership in the profession.

A key to leading change is to embrace the differences between architects and other professional disciplines, such as mechanical or structural engineers, who are typically joining teams early under the integrated practice model. Bernstein argues that this approach serves professionals well when arriving at innovative solutions to very complex problems facing the profession, such as implementing integrated practice. At the same time, he makes a plea that the profession speak with a unified voice in order for progress to occur in creating a new model of practice.

By the film's end, the architect's skill at leading the group has persuaded it to acquit the accused.

Schwennsen calls for leaders—citizen architects, both individually and collectively—to become engaged in local and national political discussions. For example, architects can serve on planning or nonprofit community-development boards, as elected officials, or volunteer for profession-related groups such as Habitat for Humanity and Main Street. In addition to contributing to the debate, architects in these roles are invaluable in translating ideas into diagrams and images so that people can understand them. Hot profession-wide topics on which architects can substantively add to the discourse include green building standards, urban planning, diversity, campaigns for new bond levies, historic preservation, and housing and building codes, to name a few.

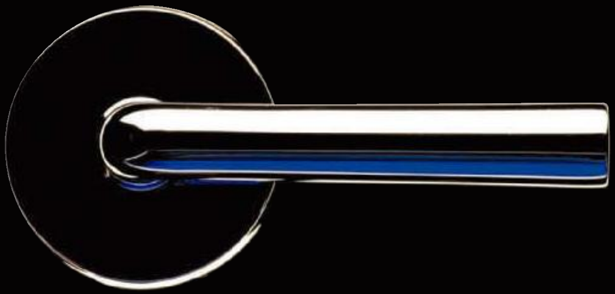
Serving the public

Architects can have an impact on society by transcending disciplinary boundaries and bringing their expertise and spirit toward becoming a constructive presence in our communities and beyond. A striking example of leadership in this realm, that of forging activist alliances in political and public-policy worlds, is the establishment of the environmental advocacy group Architecture 2030, by Santa Fe architect Edward Mazria (www.architecture2030.org). Since 2003, the organization has had a profound international impact on educating architects and the public about the role of the building sector on global warming. It is responsible for influencing the AIA's sustainability initiatives as well as energy policy for federal buildings, states, and cities around the country.

Architects can also take leadership roles in their communities by seeking and engaging worthy local projects for people or groups who might not otherwise afford architectural services—and really need them. Leading a pro bono initiative [see RECORD, August 2007, page 63] involves a passion for social or environmental issues and a deep commitment to making a difference in the world. Two groups dedicated to helping architects and firms plug into these types of projects and, as John Cary, executive director of Public Architecture, proclaims, "Develop a more pronounced culture of pro bono service within the profession," are The 1% Solution and Architecture for Humanity.

Numerous surveys indicate that architects are highly respected in our culture. Maybe that aura is what made Henry Fonda's juror so influential. Regardless, it could translate into enormous potential for reaching a wide audience that may not always be receptive. Inspired and dynamic leaders listen well, articulate their vision, motivate, think critically and creatively, reflect, prioritize, and then act. ■

the shortest distance between beauty and functionality
isn't always a straight line...



but sometimes it can be.

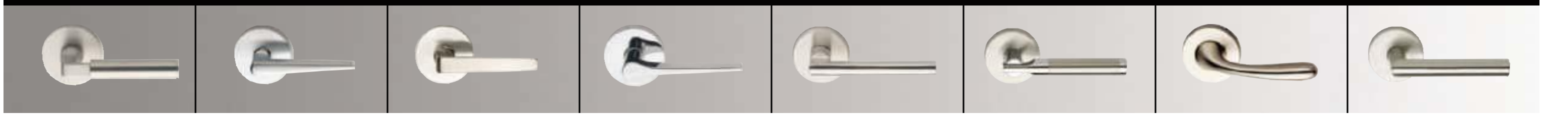
OMNIA

LOCKSETS AND ARCHITECTURAL HARDWARE

Phone: (800) 310-7960 • www.OmniaIndustries.com • *Available through authorized showrooms.*

CIRCLE 50 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

GRA®



"The stone you use says something about the designs you create.
I choose the stone that says something memorable."

Flexibility. Rich, bold colors. Endless design options. No wonder the most demanding architects choose new Pro-Fit® Alpine Ledgestone from Cultured Stone.® It has everything it takes to inspire any architect and to fulfill any vision. Why would you choose anything else?

OWENS CORNING® CULTURED STONE®
The Preferred Name In Stone™

Shown: Chardonnay Pro-Fit® Alpine Ledgestone. To find out more about Cultured Stone® products, visit www.culturedstone.com or call 1-800-255-1727.

The product colors you see are as accurate as current photography and printing techniques allow. We suggest you look at product samples before you select colors. Printed in U.S.A. September 2007.
©2007 Owens Corning. Cultured Stone® is a registered trademark of Owens Corning.

CIRCLE 51 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

MoMA winds a curving path through 40 years of Serra's work

Exhibitions

By Sara Hart

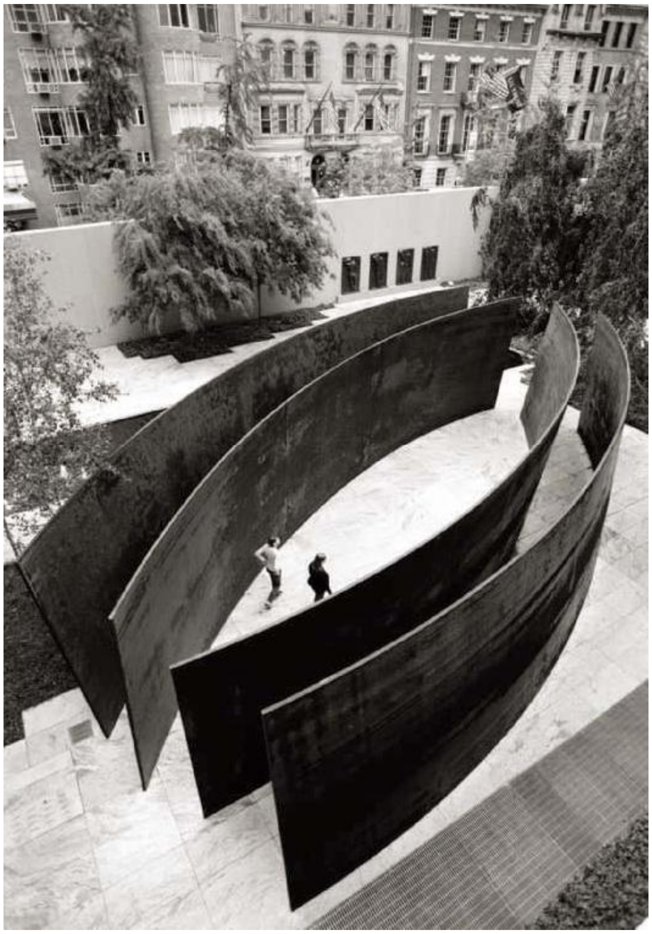
Richard Serra Sculpture: Forty Years. *Curated by Kynaston McShine and Lynne Cooke. At MoMA, New York City, June 3–September 10, 2007.*

When the late Kirk Varnedoe, the Museum of Modern Art (MoMA)'s chief painting and sculpture curator from 1988 until 2001, stipulated that the second-floor galleries in the museum's new wing be engineered to support large, heavy sculptures, it seems he had the massive Cor-Ten steel work of American sculptor Richard Serra in mind. Although Varnedoe did not live to see the completion of the new building, designed by Yoshio Taniguchi [RECORD, January 2005, page 94], his foresight made MoMA's extensive and exhaustively documented retrospective of Serra's work possible. The exhibition includes three recent commissions, completed last year, each weighing between 100 and 200 tons, created specifically for that second-floor gallery. A 40-foot-long door on the exterior, facing a vacant lot, allowed cranes to lift the three works—*Band*, Sequence, and Torqued Torus *Inversion*—into the 20,000-square-foot space. Under the sculptor's supervision, a team of riggers wielding sleds, jacks, dollies, and a gantry then pushed and pulled the segments into position.

Serra singles out *Band* as a new direction for his work. The 15-foot-tall steel wall curves in and out along a route of 75 feet, creating four unique cavities along the way. There is no prescribed beginning or end and no repetition. One can seemingly follow the meandering path indefinitely. He explains in a video on the MoMa Web site, "Band is not about teaching you anything; it's about private participation."

The haunting trio of new sculptures alone is worth the trip. Since this is a retrospective, however, the journey to *Band* is chronicled with 24 other pieces, beginning in the mid-1960s, when the artist experimented with a range of industrial materials. Vulcanized rubber, neon tubes, and rough fiberglass panels hang heavily from hooks, lean against the walls, or pile informally on the gallery floors.

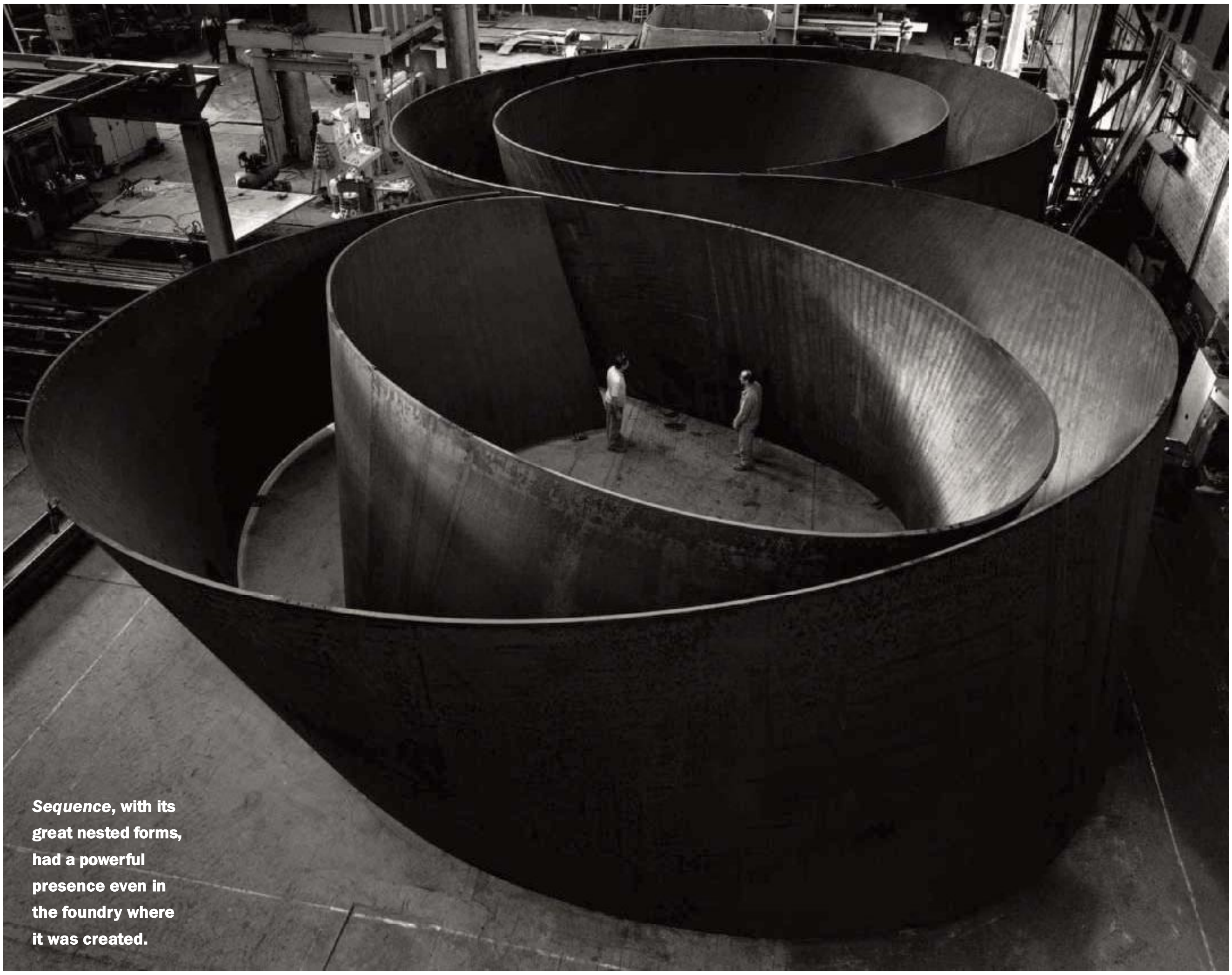
If Serra's work conveys a sense of danger—and many people feel it does—it can be found in a series called *Prop Pieces*. One of these works, *House of Cards (One Ton Prop)* (1969), consists of four lead plates, each 4 feet square and 1 inch thick, leaning against each other to form a loosely closed box. Weighing in at 1 ton and visibly not secured, the piece creates the anxiety that, as its name suggests, accompanies the anticipation of collapse. A minor vibration, it seems, could bring the plates crashing down. But once you get the conceit about the mechanics of weight and gravity "propping" these sculptures in place, there's little else to think about. They come across as Minimalist one-liners. Though most of these precariously positioned, heavy-metal investigations, like the later tilting and torquing sculptures, are entirely self-supporting, their placement in the show, tucked away on the sixth floor, makes it hard to connect them conceptually to the monumental Cor-Ten steel pieces that evolved from them.



In MoMA's garden, *Intersection II*, made of 13-foot-tall plates, produces canyons among four identical conical sections, two tilting inward and two outward.

With steel, Serra captures spaces that challenge perception—processional ways designed, unlike architecture, for journeys without destination. Each environment is an end unto itself. Two large Cor-Ten works from the museum's collection, which currently occupy much of the sculpture garden, are prime examples, inviting viewers to walk in and around them, experiencing the spatial qualities in direct and personal ways. *Torqued Ellipse IV* (1999)

PHOTOGRAPHY: © RICHARD SERRA/ARTISTS RIGHTS SOCIETY—LORENZ KIENZLE, PHOTOGRAPHER



***Sequence*, with its great nested forms, had a powerful presence even in the foundry where it was created.**

twists and tilts outward from the center, its continuous metal surface forming one ellipse at the base and a rotated one at the top edge. Nearby, *Intersection II* (1992–93), made of thick, 13-foot-tall plates, produces canyons among four identical conical sections, two tilting inward and two outward.

In Serra's view, steel is a material with limitless inherent potential—not a medium for visual metaphors, but structure for creating spaces and inspiring movement within them. In a BBC interview a few years ago, he described the way certain other artists who worked with steel, such as Picasso and Calder, "cut it and folded it and pictorialized it, so that [it occupied] … space in a way false to its gravitational load."

Serra's use of steel and the monumentality of his forms have generated constant analogies with architecture. Some critics have spoken in the same breath of the architectural characteristics of his sculptures and the sculptural attributes of Frank Gehry's architecture. Both men know a lot about torque, but Serra rejects outright any analogy between his work and architecture. He has argued that architecture, constrained by functionality, exists through watered-down ideas that become "scenography." While characterizing architectural design as additive and utilitarian, he describes his own pieces as "purposefully useless."

There's been chatter about a rift between Serra and Gehry. It's true, this sculptor doesn't much care for the vast "shed," as he calls it, that Gehry built in Bilbao, where a permanent exhibition of Serra sculptures opened in 2005. The gripe may not be with any particular architect, but with what the artist sees as a disturbing trend in museum architecture toward idiosyncratic spaces that overwhelm and undermine the art. As he defiantly asserted in a 2001 interview: "Architecture is not art."

This art exhibition, which will not travel due to the size and weight of the pieces, has been elaborately documented in a 420-page, fully illustrated monograph. The publication includes an interview with Serra by Kynston McShine, one of the show's organizers and MoMA's chief curator at large, as well as essays by exhibition co-organizer Lynne Cooke, curator at the Dia Foundation in New York. ■

If you look real close you can see 25 years of fire-rated glazing experience reflected in it.

SCHOTT PYRAN® fire-rated glass-ceramics are an architect's best friend.

PYRAN® is everything you've been looking for in fire-rated glass. It's fire-protective, impact-resistant and, aesthetically speaking, quite fetching. PYRAN® Crystal offers the highest standard of clarity, transmission and true color rendition. And PYRAN® Star is both beautiful and economical. If impact resistance is required, PYRAN® fire-rated glass-ceramics can be supplied laminated or with a surface-applied safety film. It comes in large sizes and is easily accessible through distributors, fabricators and glaziers. For new construction or retrofit, spec the glass with a loyal following among fire professionals – PYRAN®. For more information about PYRAN® fire-rated glass-ceramics, call us at 502-657-4417 or visit us at www.us.schott.com/pyran.

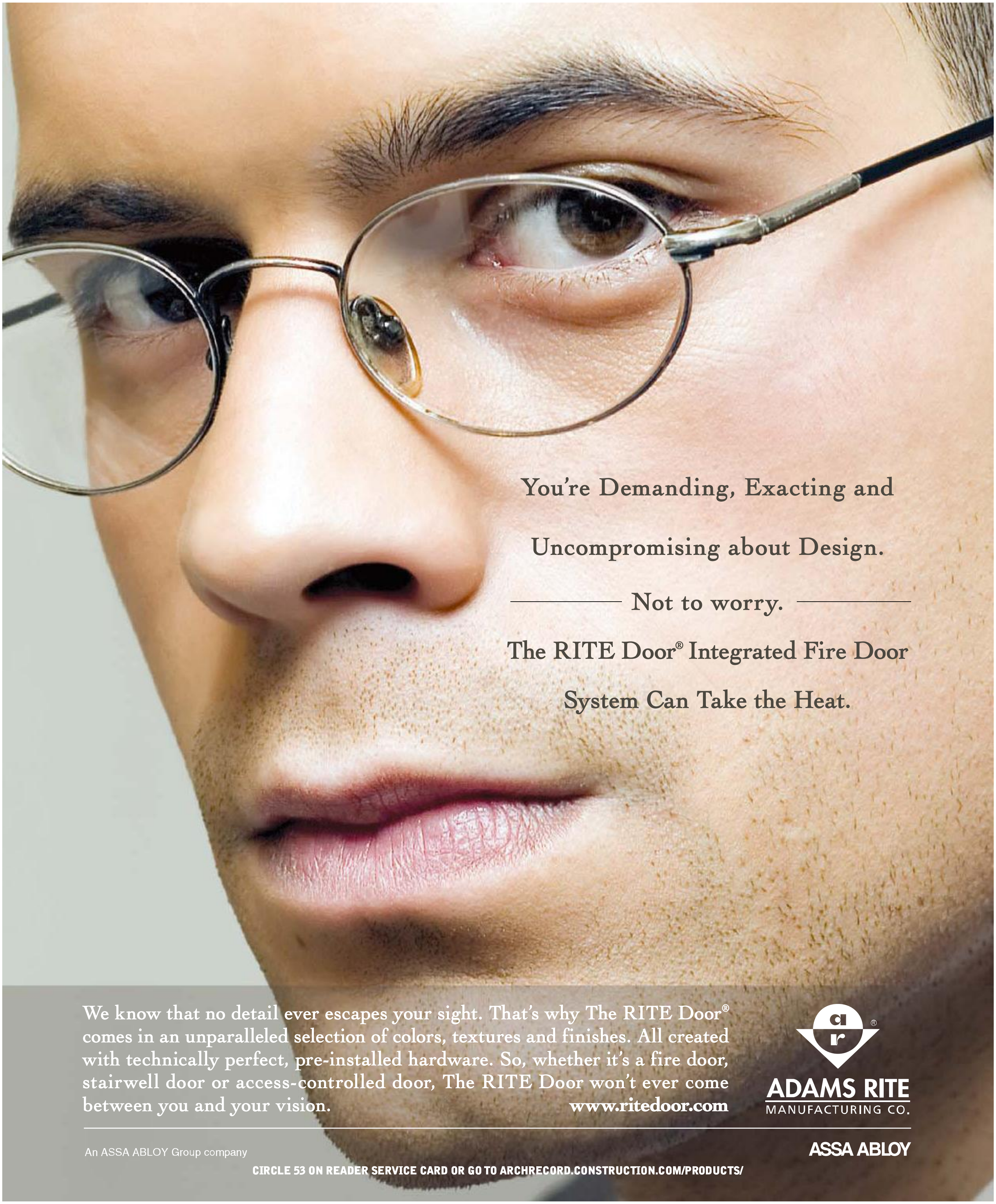
Home Tech
SCHOTT North America, Inc.
Phone: 502-657-4417
Fax: 502-966-4976
E-mail: pyran@us.schott.com

www.us.schott.com/pyran

SCHOTT
glass made of ideas

CLASSIFIED UL

CIRCLE 52 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



You're Demanding, Exacting and Uncompromising about Design.

Not to worry.

The RITE Door® Integrated Fire Door System Can Take the Heat.

We know that no detail ever escapes your sight. That's why The RITE Door® comes in an unparalleled selection of colors, textures and finishes. All created with technically perfect, pre-installed hardware. So, whether it's a fire door, stairwell door or access-controlled door, The RITE Door won't ever come between you and your vision. **www.ritedoor.com**

ADAMS RITE
MANUFACTURING CO.

An ASSA ABLOY Group company

ASSA ABLOY

CIRCLE 53 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Real vision.

Real Rock.

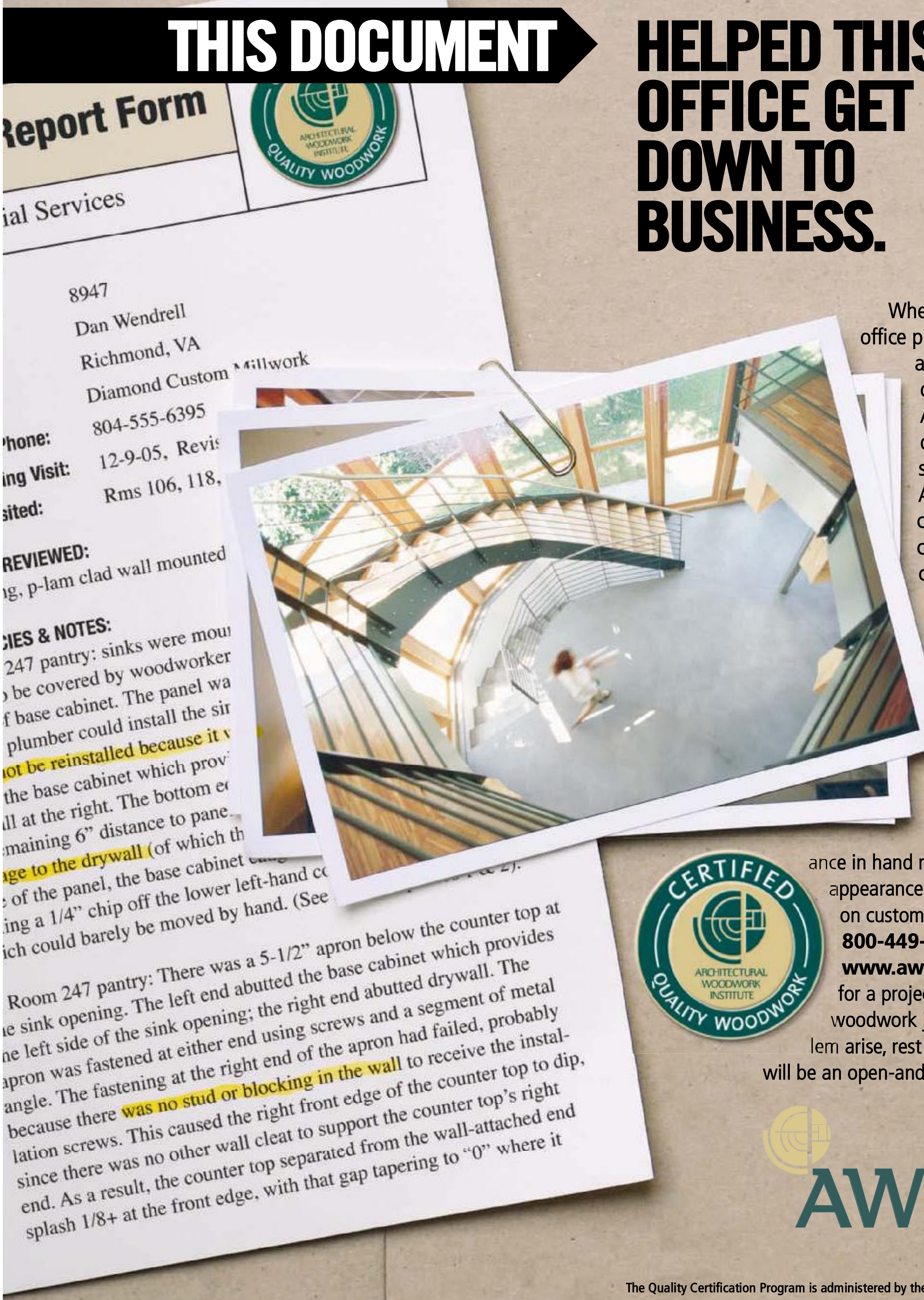
Your vision is as big as Mother Nature herself.
When only real will do, choose Robinson Rock™. Inspired by your vision.
Brought to life by Robinson Brick Company.

800.477.9002 ■ RobinsonBrick.com/BuildOn

ROBINSON
BRICK
COMPANY
SINCE 1880
Build On.™

A General Shale Brick, Inc. Company

CIRCLE 54 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



Report Form

ial Services

8947
Dan Wendrell
Richmond, VA
Diamond Custom Millwork
804-555-6395
Phone:
ing Visit: 12-9-05, Revis
sited: Rms 106, 118,

REVIEWED:
g, p-lam clad wall mounted

CIES & NOTES:
247 pantry: sinks were mou
be covered by woodworker
f base cabinet. The panel wa
plumber could install the si
ot be reinstalled because it
the base cabinet which prov
ll at the right. The bottom e
maining 6" distance to pane
ge to the drywall (of which th
of the panel, the base cabinet
ing a 1/4" chip off the lower left-hand c
ich could barely be moved by hand. (See

Room 247 pantry: There was a 5-1/2" apron below the counter top at
e sink opening. The left end abutted the base cabinet which provides
e left side of the sink opening; the right end abutted drywall. The
apron was fastened at either end using screws and a segment of metal
angle. The fastening at the right end of the apron had failed, probably
because there was no stud or blocking in the wall to receive the instal-
lation screws. This caused the right front edge of the counter top to dip,
since there was no other wall cleat to support the counter top's right
end. As a result, the counter top separated from the wall-attached end
splash 1/8+ at the front edge, with that gap tapering to "0" where it

THIS DOCUMENT HELPED THIS OFFICE GET DOWN TO BUSINESS.

When the architect of this office project was concerned about the compliance of some cabinetry, his AWI Quality Certificate of Compliance restored his satisfaction. A QCP inspection was conducted. Deficiencies were identified, corrected and checked. Then a Certificate of Compliance issued. At no cost to the architect or building owner. [Project fees are included in the woodworkers contract].

Having a QCP Certificate of Compliance in hand means you get the appearance and quality you expect on custom woodwork. So call **800-449-8811**, or check out **www.awinet.org**, to register for a project number for your next woodwork job. And should a problem arise, rest assured its resolution will be an open-and-shut case.

CERTIFIED
ARCHITECTURAL WOODWORK INSTITUTE
QUALITY WOODWORK

AWI ARCHITECTURAL WOODWORK INSTITUTE

www.awinet.org

The Quality Certification Program is administered by the Architectural Woodwork Institute.

CIRCLE 55 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Trade Show Review Chicago • NeoCon

For the first time in NeoCon's history, a lighting fixture took home the Best of NeoCon Award. The slim Brazo LED task light beat out 426 other entries, an indication of the growing importance of the adjustability, sustainability, and ultimately, the health of our personal work spaces. *Eileen Ragsdale*

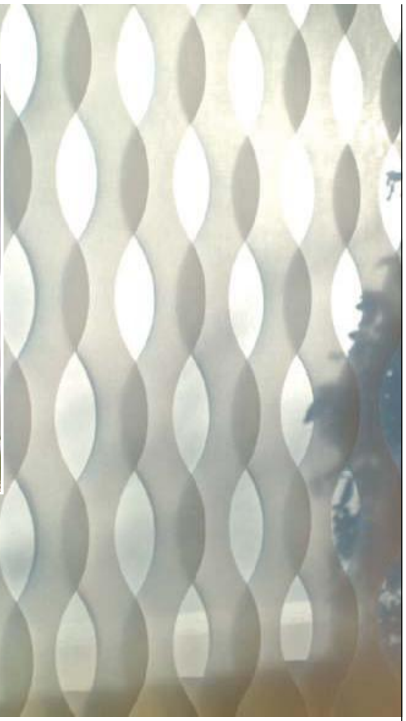
1 Silent bliss Swedish designer Eva Marmbrandt dreamed up three sinuous designs for Silent Gliss's vertical blinds systems. The Vertical Waves series offers three fresh patterns for laser-cut vanes that overlap in luscious undulating layers of light and shadow. Vanes are available exclusively in 14 colors of Visiotex polyester fabric. Silent Gliss USA, Norcross, Va. www.silentgliss-usa.com **CIRCLE 200**

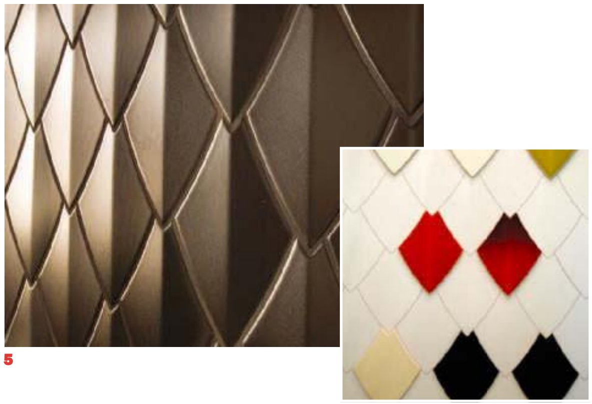
2 Bravo Brazo! Luminous on many points, Pablo Design's LED desk lamp beams with clever design, precise details, and sustainable advantages. Brazo is the first desk lamp designed with focus control and full dim control of a linear band of light. Calibrated light spread is adjusted by rotating a glass tube sheathed in the slim, aluminum, multiadjustable arm. Haworth, Holland, Mich. www.haworth.com **CIRCLE 201**

3 Plush planes Complex yarn-twisting techniques are Suzanne Tick's latest weaving wonder. Her Bas Relief series for Monterey has taken broadloom to new heights. The soft sculptural volumes of extra large, twisted, airy yarn loops yield underfoot but spring back into lofty place as the highest relief offered in a contract carpet. Tandus, Dalton, Ga. www.tandus.com **CIRCLE 202**

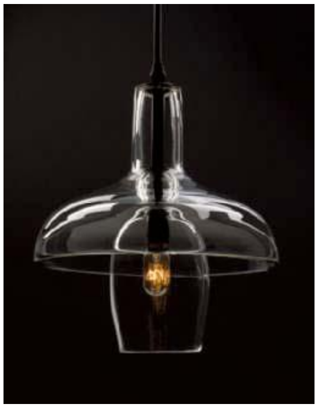
4 Right from any angle Refined geometry shaped Lauren Rottet's collection for Decca with precise details, calculated angles, and edgy material applications. The LR CT100 coffee table (top) applies origami to wood slabs with corner folds elevating it to a nearly floating table. The LR BE600 bench (bottom) boasts simple lines with wood panels perched proud of its seat. Decca Contract Furniture, Dallas. www.deccacontract.com **CIRCLE 203**

Eileen Ragsdale is resource librarian at TPG Architecture in New York City and president of the Resource Directors Association. She served as a Best of NeoCon return juror this year.

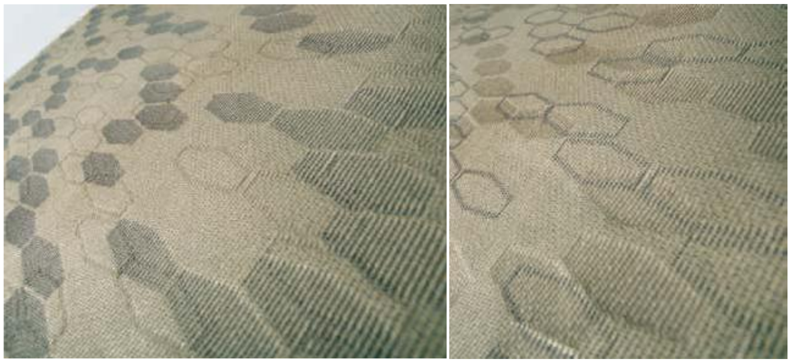




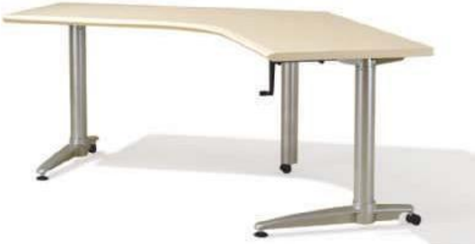
5



6

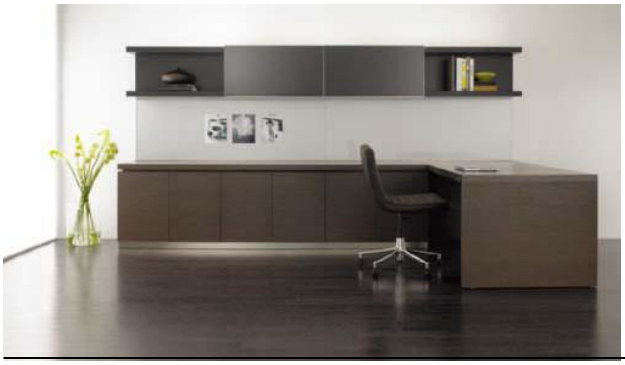


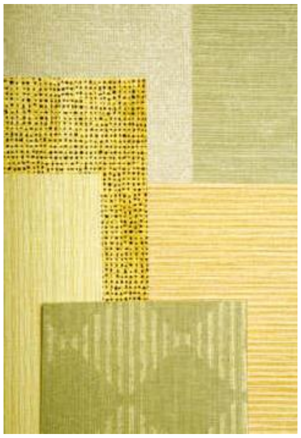
7



8

9





10

5 Scale the wall Turkish designer Can Yalman interprets organic snake skin patterns in manually pressed, rhombus-shaped tiles from the Reptile collection's Snake series. Single 6.3" x 7.9" ceramic "scales" come in 15 color options. Century Tile Distributors, Lombard, Ill. www.century-tile.com **CIRCLE 204**

6 Crystal clear persuasion Alison Berger Glassworks' Lantern pendant shines brightly despite its mere 25 watts. Crafted of mouth-blown leaded crystal, a narrow wine-glass shape emerges from within a wide cocktail-glass shape. Holly Hunt Collection, Chicago. www.hollyhunt.com **CIRCLE 205**

7 Switch the flip As viewing angles change, so do the subtle patterns of the Flip fabric collection. The Zez weaving technology is available exclusively through Steelcase. Steelcase, Grand Rapids, Mich. www.steelcase.com **CIRCLE 206**

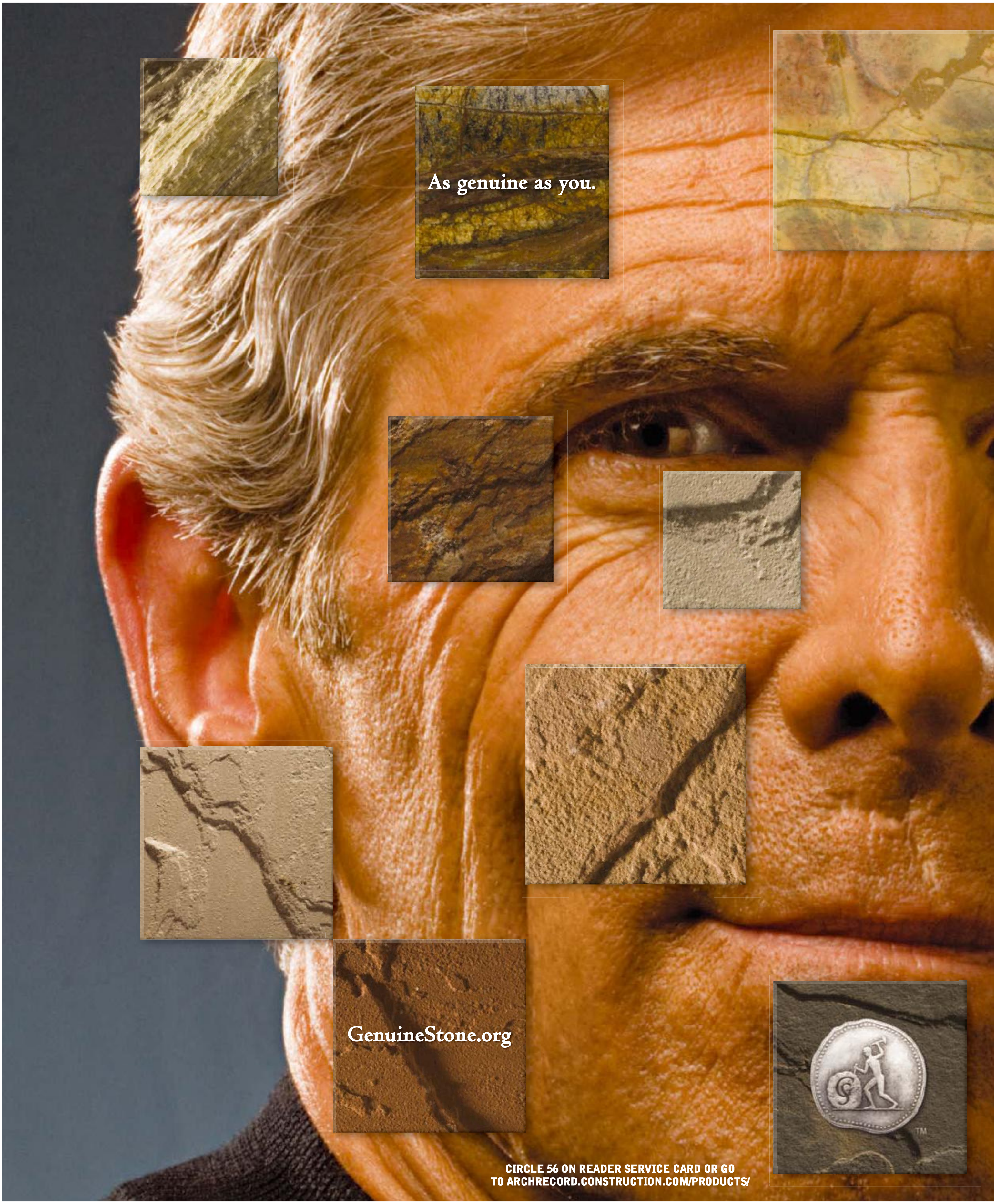
8 Light as a feather Next is a new generation of height-adjustable tables, with lighter scale, advanced motion control, independent legs, and ergonomic advancements. The elimination of rails allows flexibility and ample leg room. Baker Manufacturing, Pineville, La. www.bakermanufacturing.com **CIRCLE 207**

9 Reign of the planes Seamless expanses of glass, wood, and solid surfacing free of visible hardware render the Uffizi casegood collection a sleek and functional office furniture system. Features include file pedestals disguised as cabinet doors, cantilevered shelves, and magnetic panels of wood veneer or back-painted glass. Tuohy, Chatfield, Minn. www.tuohyfurniture.com **CIRCLE 208**

10 Grass fed Composed of high Kenaf fiber content and backed with recycled paper pulp, Organics biodegradable, recyclable wall covering is hardy enough for commercial interiors. Eight designs are coated with PLA derived from renewable resources. Wolf Gordon, New York City. www.wolf-gordon.com **CIRCLE 209**

For more information, circle item numbers on Reader Service Card.

ONLINE: To view additional images, go to ***architecturalrecord.com/products/***.

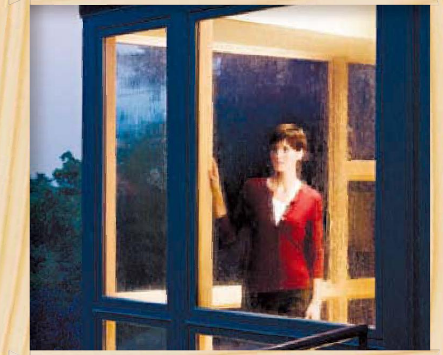

As genuine as you.
GenuineStone.org
™

CIRCLE 56 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Custom Wood Windows

Premium Wood Exterior Special 4-Lite Patio Door

Beauty that will last until post-post-post-modernism.



Clad-Wood Radius Casement Window

Premium Wood Exterior Patio Door
1505AP with Frit Glass

Wood Double-Hung Window

AuraLast THE WORRY-FREE WOOD

20 YEAR WARRANTY

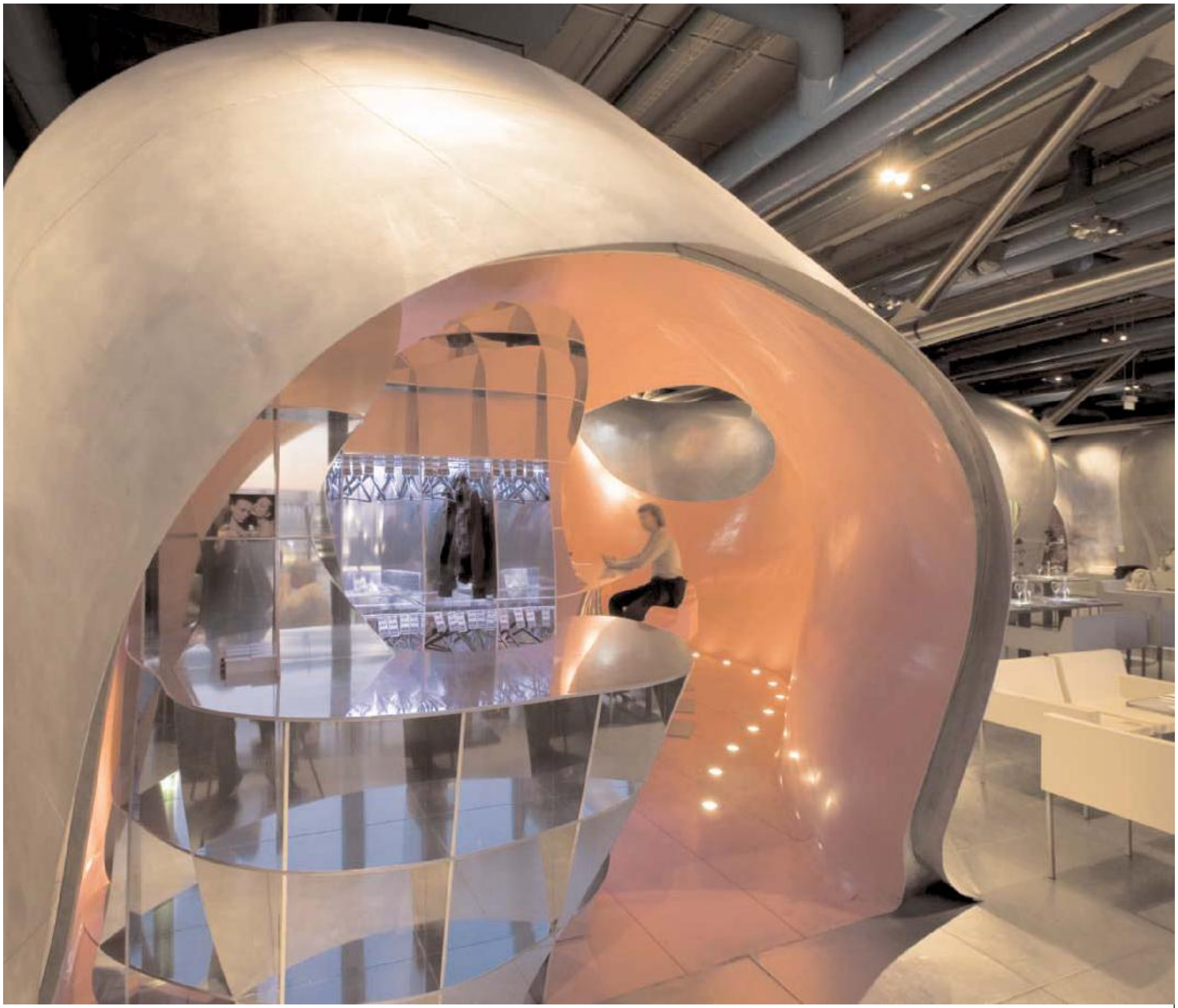
JELD-WEN® windows and doors made with AuraLast® wood will stay beautiful and worry-free for years, whether your climate is wet or dry, hot or cold. AuraLast wood provides superior protection against decay, water absorption and termites. Unlike dip-treated wood, AuraLast wood is protected to the core and comes with an exclusive 20-year warranty. To request a free brochure about AuraLast wood or any of the reliable windows and doors we make, or to find a dealer near you, call **1.800.877.9482, ext. 1201**, or visit **www.jeld-wen.com/1201**.

RELIABILITY *for* real life®

JELD-WEN®
WINDOWS & DOORS

CIRCLE 57 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

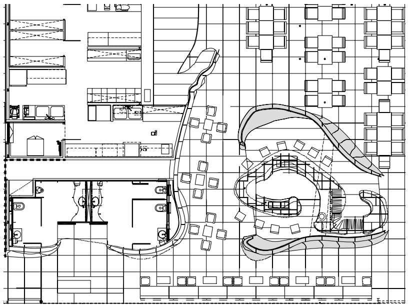
For more information and complete product warranties, see **www.jeld-wen.com/auralast.** ©2006 JELD-WEN, inc. JELD-WEN, AuraLast and Reliability for real life are registered trademarks of JELD-WEN, inc., Oregon, USA.



PHOTOGRAPHY: COURTESY JAKOB + MACFARLANE

Raising glasses to *la vie en rose*

By Beth Broome



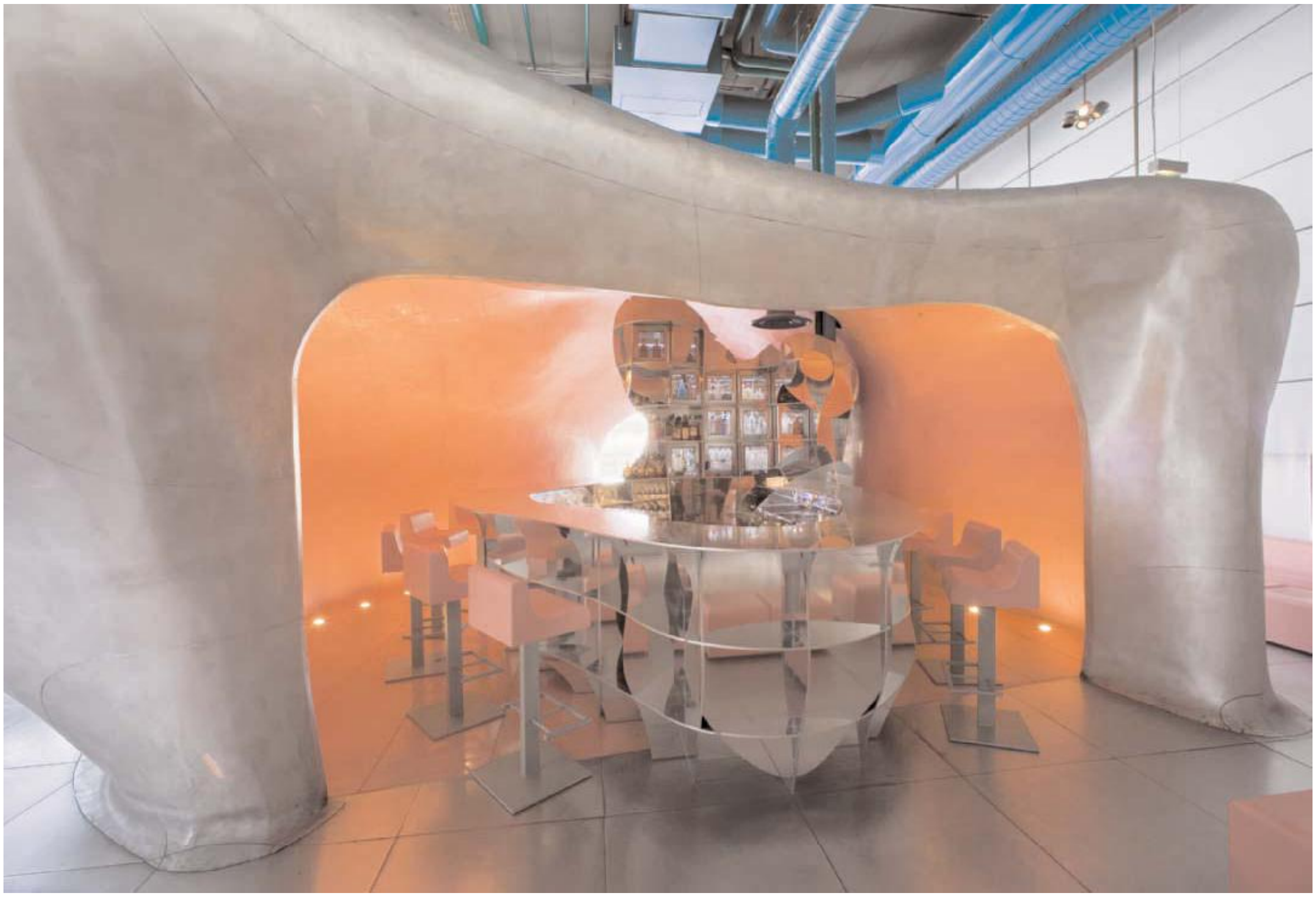
Pink Bar in Paris, a diminutive meeting place with a big personality, is a project within a project within a project. Here, architects Jakob + MacFarlane have staged an intervention inside the restaurant they designed a decade ago as a larger intervention at the top of Richard Rogers's and Renzo Piano's iconic Pompidou Centre.

In 1997, Dominique Jakob and Brendan MacFarlane won a competition to design a restaurant [RECORD, September 2000, page 128] to replace the Pompidou's cafeteria, as part of the museum's extensive, two-year renovation. The young, Paris-based architects were understandably intimidated by the weighty charge, but hardly scared off. Not permitted to touch the trademark ceiling or the walls, the team focused on the 31-inch-square floor grid, the smallest unit of the center's larger matrix.

Playing against the building's orthogonal lines, they placed on the grid four organically shaped, aluminum-clad volumes—including the kitchen, coat check/bathroom, and VIP lounge—each lined in vibrantly colored rubber. Named Georges (after Pompidou), the restaurant quickly established itself on the city's roster of hot spots.

In 2006, Jakob + MacFarlane was again approached, this time with the challenge of converting the restroom volume into a bar. The architects were enthusiastic, but again had hesitations. Reflecting on the museum's call for an entirely new architecture in the original restaurant commission, the partners now questioned their role. "Was it right that we come in and do a second take on our own project?" asked MacFarlane. "Or would it be more interesting to have someone else do it?" In the end, the pair embraced the job (which included adding dining-room seating and relocating the toilets) as an opportunity for a rebirth within one of their own works.

Small, ice-cube-traylike refrigerators housing a variety of liquor bottles recall automats and, from a distance, give the illusion of TV monitors.

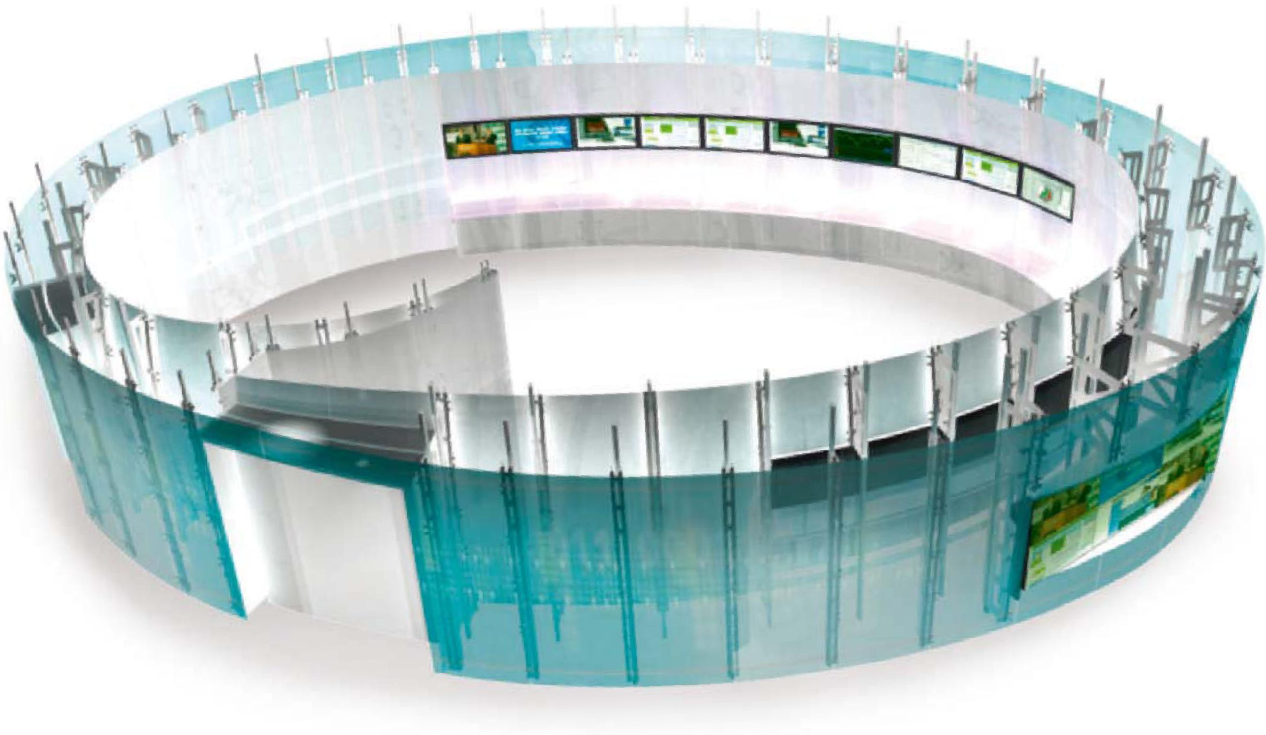


For the Pink Bar, the architects again used the museum's grid, says MacFarlane, "as a geometrical basis for a dialogue between the existing architectural context and the new project." Within the volume's aluminum shell, which Jakob + MacFarlane left unchanged, they inserted an S-shaped, buffed-aluminum bar that snakes around to create the cloakroom. The team replaced the lime-green interior with shocking-pink rubber, and carried the color over into the molded polyurethane bar stools and other seating, which they also designed, that spills out of the bar area. Floor lighting and LEDs under the bar and inside the refrigerators bring a glow to the lively but intimate space.

Giving diners a place to eat lighter fare in a more private setting, Pink Bar, which opened last spring, fills its role as a parallel restaurant to Georges and, in its own small, otherworldly way, inhabits the grid of the Pompidou's great meta structure. ■

HIGH DESIGN/LOW IMPACT

Double curvature walls created with 3form Varia and custom-designed hardware. Complex geometry digitally fabricated to minimize material waste.



3form®

3-FORM.COM | 800.726.0126

Project: **Innovation and Technology Center in Boston, MA**
Application: **Double Curvature Walls and custom hardware design**
Material: **3form Digital Varia made from** *ecoresin*™
Architect: **Perkins+Will** Rendering: **Bryan Harris**
Photo: **© Steve Hall, Hedrich Blessing Photography**

CIRCLE 58 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

PRESCRIPTION: PRECAST

Architect: Pratt Design Studio Ltd.

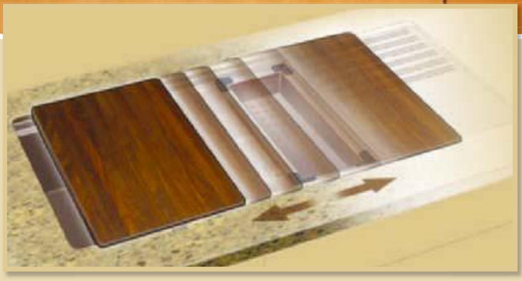
Precast was the right prescription for the award-winning Condell Medical Center in Libertyville, IL. Architects chose High's precast because the uniquely articulated, stacked architectural panels were self-supporting, with vertical loads carried directly by foundation walls, which reduced structural steel framing costs significantly. And since designers were not sure when the facade would be constructed, precast ensured it could be done in any weather. High's unparalleled commitment to new technology and innovation has led to solutions like this and advancements including carbon fiber reinforced CarbonCast™—precast that's stronger, lighter, better insulating, and more durable, allowing a virtually unlimited selection of colors, textures, and finishes. And High's exclusive 15' and 16'-wide MEGA-Tee deck systems enable wider spans and more open plans with shallower tees in total precast buildings and parking garages. Projects such as Condell are possible with High's expert technical assistance in all phases of a project, from design to erection. High gives architects the flexibility to explore unique solutions while ensuring a job is completed on schedule and on budget. Call High to learn how precast can fill your prescription.

HIGH
CONCRETE
GROUP

HIGH CONCRETE GROUP® ▪ CONCRETE INNOVATIONS & ANSWERS® ▪ CALL US AT 800-PRECAST ▪ WWW.HIGHCONCRETE.COM

CIRCLE 59 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

SET IN STONE



The BLANCOPRECIS™ Multi-Level Sink

Forty-eight inches of flexible, hard working space.

Integrated work station design allows the cutting board to slide the full width of the sink, wherever you need it for quick and convenient food prep.

Made From SILGRANIT®, 80% natural granite for unsurpassed strength, scratch and stain-resistance.

One of six new BLANCOPRECIS designs.

Stainless Steel Sinks • Silgranit® Sinks • Kitchen Faucets
Bar Sinks & Faucets • Custom Sink Accessories

800.451.5782 • www.blancoamerica.com

Available in Anthracite (shown), Metallic Gray, Biscuit and White.

CIRCLE 60 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

BLANCO

Produced in Germany for more than 80 years

Natural Selection

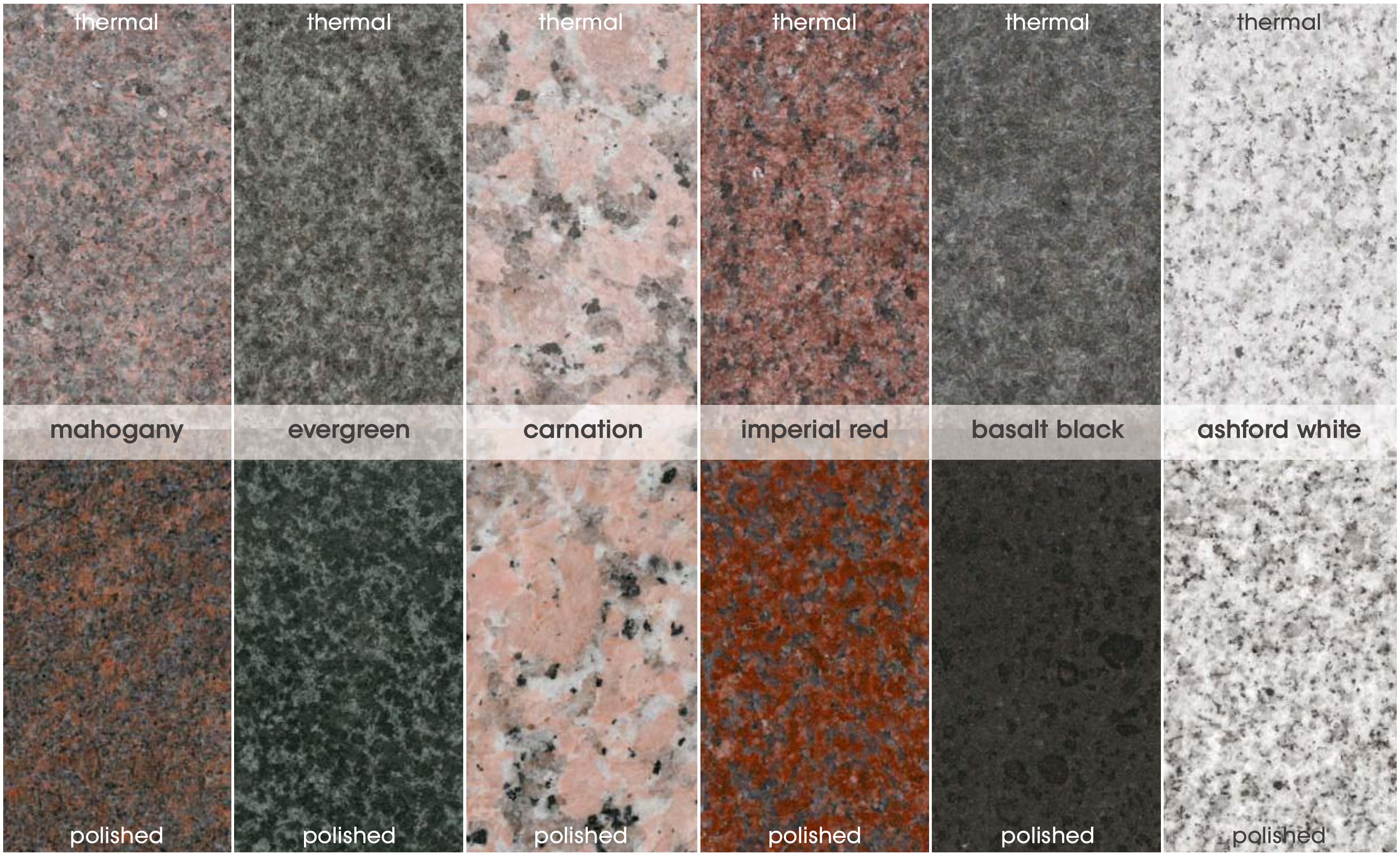
From nature's finest comes the beauty of natural wood. East Teak offers only the highest quality teak and exotic woods from around the world. With exotic species featuring distinctive striping and graining to FSC-certified 100% recycled teak, we are North America's premier source for imported luxury hardwoods. So whether your commercial or residential project requires flooring, decking, mouldings or custom millwork, select East Teak for the finest hardwoods. Naturally.

EAST TEAK
FINE HARDWOODS, INC.

east coast 800.338.5636 | *west coast* 800.537.3369
central 972.248.0078 | *email* info@eastteak.com
www.eastteak.com

CIRCLE 61 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

hanover® architectural products introduces... NEW Granite Pavers


thermal
thermal
thermal
thermal
thermal
thermal
mahogany
evergreen
carnation
imperial red
basalt black
ashford white
polished
polished
polished
polished
polished
polished

changing the way you think about granite pavers

For over 36 years, Hanover® Architectural Products has been known as the producer of the highest quality concrete paving products. Now Hanover® is pleased to include a line of granite pavers fabricated with close tolerances of (+/-) 1/16″. Pavers are stocked in six colors for immediate delivery. Careful selection of raw materials make Hanover® Granite Pavers a natural choice for all types of applications.

Visit www.hanoverpavers.com or call 800.426.4242
for more information.

- Six stocked colors in a 23 1/2″ x 23 1/2″ x 2″ size
- (+/–) 1/16″ tolerances
- Quicker installation time
- Immediate availability on the six stocked colors
- Highest quality raw materials

HANOVER®
Architectural Products
www.hanoverpavers.com
800.426.4242

CIRCLE 62 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

BORANO

Custom Mahogany Doors and Windows

Opening a new world of old world elegance

Provence

Malaga

Mendoza

Genoa

Taranto

Granada

Positano

Marbella

Buenos Aires

www.borano.com
877.839.8029
Code AR-001

CIRCLE 63 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

architect as DEVELOPER

Seminar *with* **JONATHAN SEGAL FAIA** | **October 28, 2007** | **Los Angeles**

Break free from the client and develop your own future!

JONATHAN SEGAL FAIA recently spoke at the national AIA convention to over one thousand attendees. *The response was tremendous. The interest incredible.* More and more architects want to develop their own work to gain complete control over their projects, while increasing profits. Jonathan Segal will go through case studies of his own work, taking attendees through the entire process start to finish, while explaining the following topics:

WOODBURY UNIVERSITY 1884

CONTINUING EDUCATION AIA

October 28, 2007
LOS ANGELES, CA
Dorothy Chandler Pavilion

REGISTER ONLINE:

$695/person (Sept 1st-Oct 1st)
$795/person (after October 1st)
Enter ARCHREC at checkout for $100 off!
www.architectasdeveloper.com/ar

- How to develop a single-family residence
- How to develop a multi-family rental project
- Title insurance
- Proformas
- Bank financing
- Insurance
- Permanent take out financing
- Construction contracts

Each attendee will receive a step by step manual outlining the process.

Space is limited. Register online at www.architectasdeveloper.com/ar

CIRCLE 64 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Spatial Mutations

By John Gendall

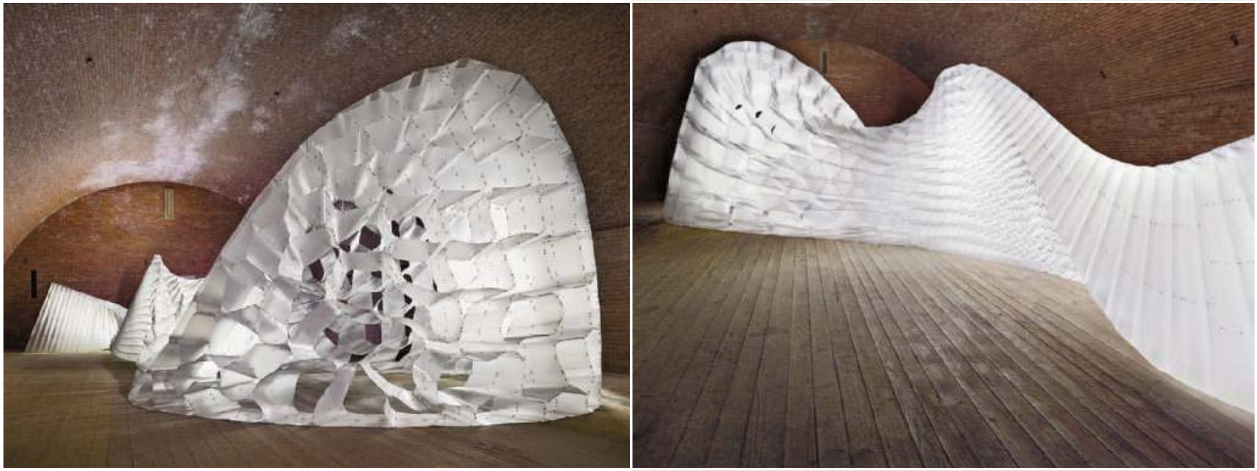
"As Gregor Samsa awoke one morning from uneasy dreams, he found himself transformed in his bed into a gigantic insect." So begins Franz Kafka's *Metamorphosis*, the famous 1915 novel in which an adolescent boy is mysteriously transformed into a bug. Last July, a Civil War–era fort in Boston awoke to find itself transformed into an evocative gallery for a luminous, sinuous acrylic object, twisting through it. And earlier this year in Lisbon, a stringently Cartesian exhibition hall by Alvaro Siza turned soft, dripping with stalactites of supple fabric. These metamorphoses are temporary installations—small structures that use the spatial, structural, and conceptual tools of architecture and engineering, but lack specific program. Though some installations are outdoors, the projects shown here inhabit interiors, dramatically transmuting the spaces that contain them. And unlike the irreversible metamorphosis of Gregor, who died a beetle, such work is all, sooner or later, dismantled, returning the rooms to their original state.

At the 19th-century fort, the installation, by Office dA, not only transforms the place's spatial qualities, but also, temporarily, its meaning. Fort Warren, a stone structure on Georges Island in Boston Harbor, was built in the mid-1800s as protection from naval attacks and a prisoner-of-war camp. Since its decommission in 1947, it has stood as a reminder of war. But walk into the small, dimly lit powder magazine today, and you'll find no trace of conflict or the military. Until October 8, it will house *Voromuro*, an installation with an expressive yet delicate sense of movement and fluidity that springs to life within its austere surroundings.

Without touching the enclosure, Office dA completely altered the 1,800-square-foot room by inserting a single object that curves, stretches, and vaults through it. Based on a Voronoi mathematical diagram, the piece is composed of variously sized and shaped acrylic panels, riveted together to create coffers. The structure allows the form to morph across space, its undulant wall gradually becoming a vaulted dome.

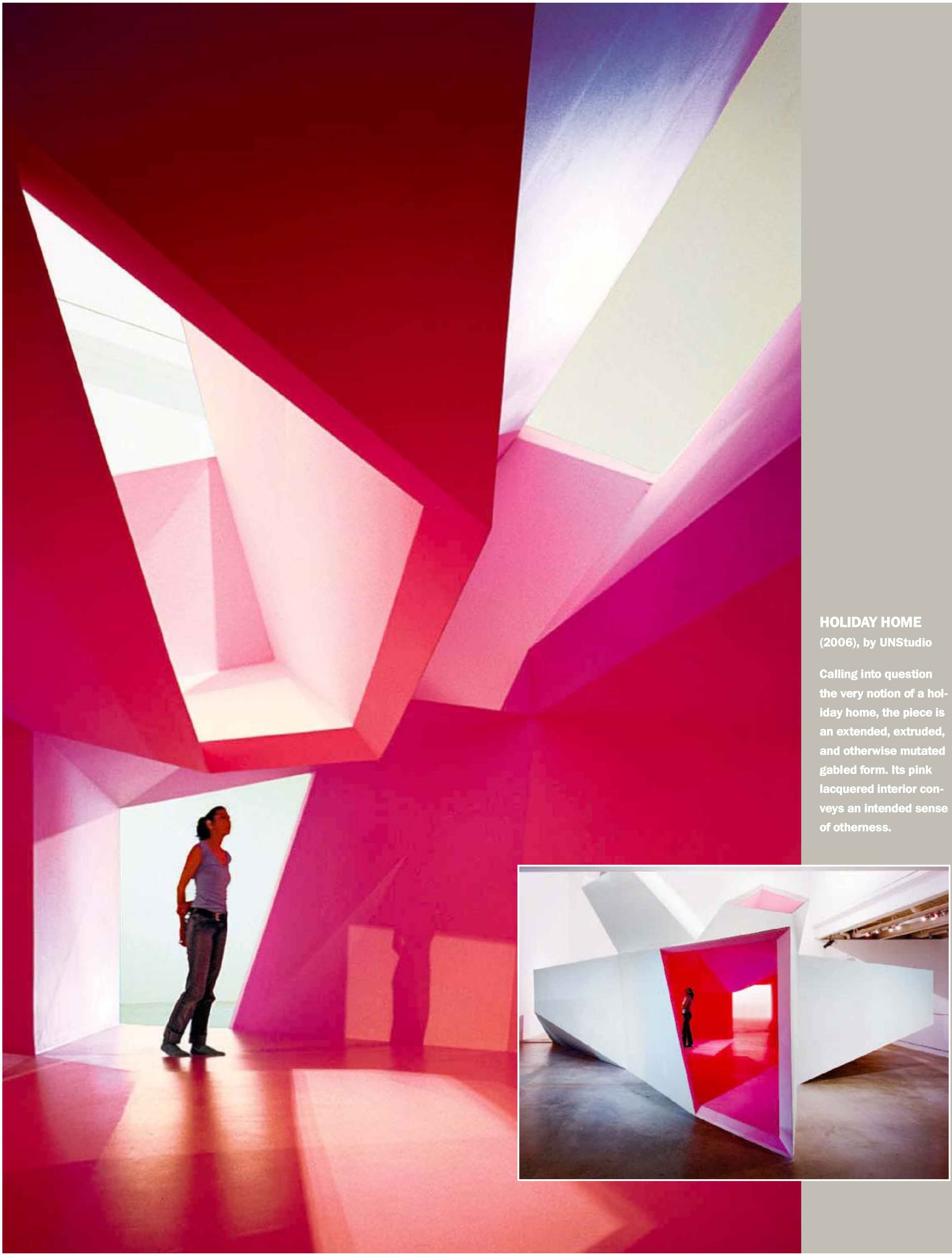
In this dark interior, visitors' eyes must adjust to the light level, a slow process that heightens sensory awareness. Lit only by

John Gendall is a New York–based architectural writer.



VOROMURO (2007), **by Office dA**

Based on a Voronoi mathematical diagram, variously shaped and sized translucent acrylic panels are riveted together to form coffers.

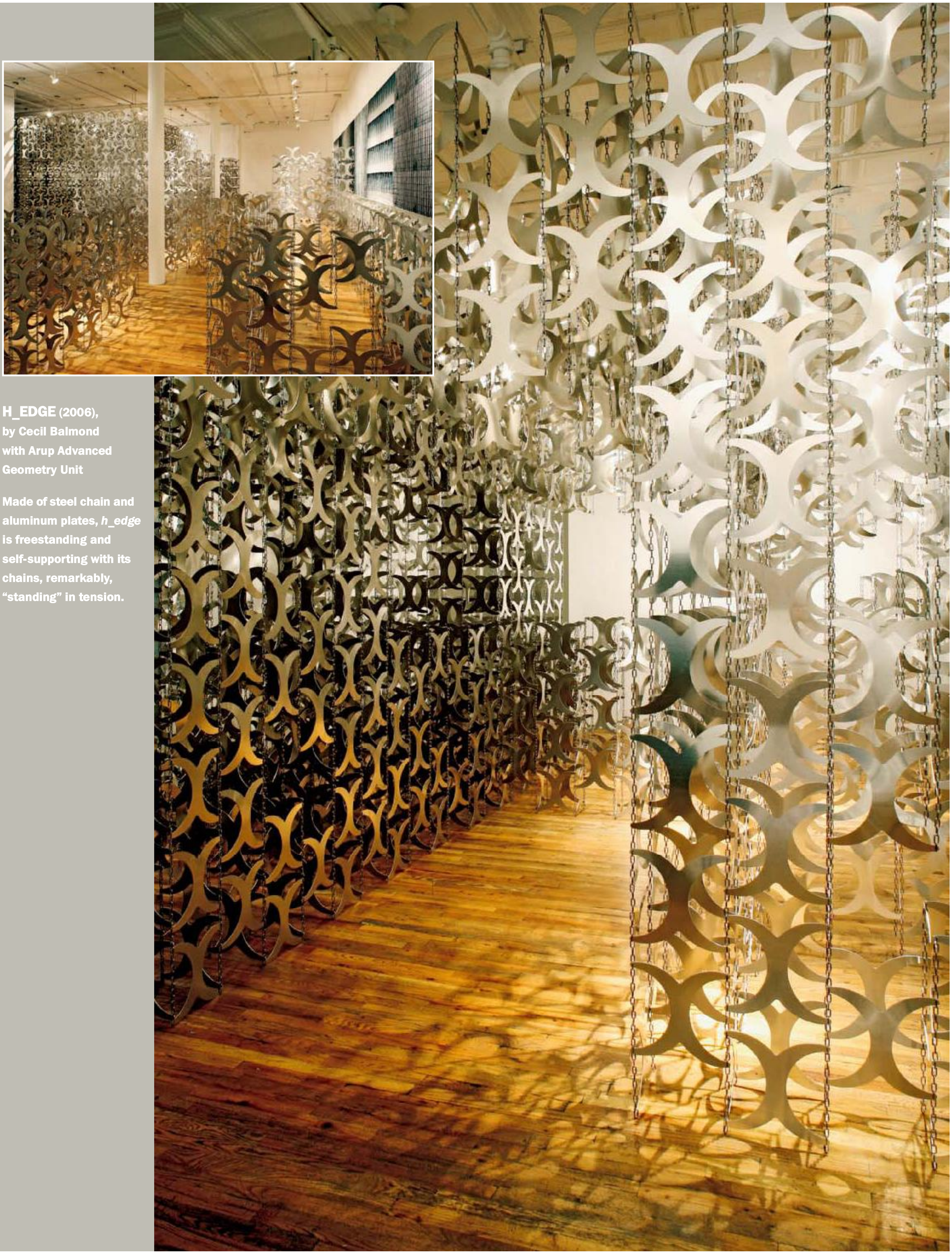


HOLIDAY HOME

(2006), by UNStudio

Calling into question the very notion of a holiday home, the piece is an extended, extruded, and otherwise mutated gabled form. Its pink lacquered interior conveys an intended sense of otherness.

PHOTOGRAPHY: © JOHN HORNER (VOROMURO); MICHAEL MORAN (HOLIDAY HOME); WHITNEY COX (H_EDGE)



H_EDGE (2006), by Cecil Balmond with Arup Advanced Geometry Unit

Made of steel chain and aluminum plates, *h_edge* is freestanding and self-supporting with its chains, remarkably, "standing" in tension.

daylight filtering through two doorways, the installation achieves luminosity through the material's translucency. Stunningly, the project finds serenity in a former prison camp. Without being political, the piece temporarily strips the room of that meaning, reterritorializing it as a beautiful architectural experience.

The practice of creating temporary spatial interventions gained traction in the 1970s, when architectural theory was arguably at its zenith. Notably, in that era, John Hejduk made his most celebrated architectural works—*Vladivostok*, the *Masques*, and *Victims*—indistinguishable from installations.

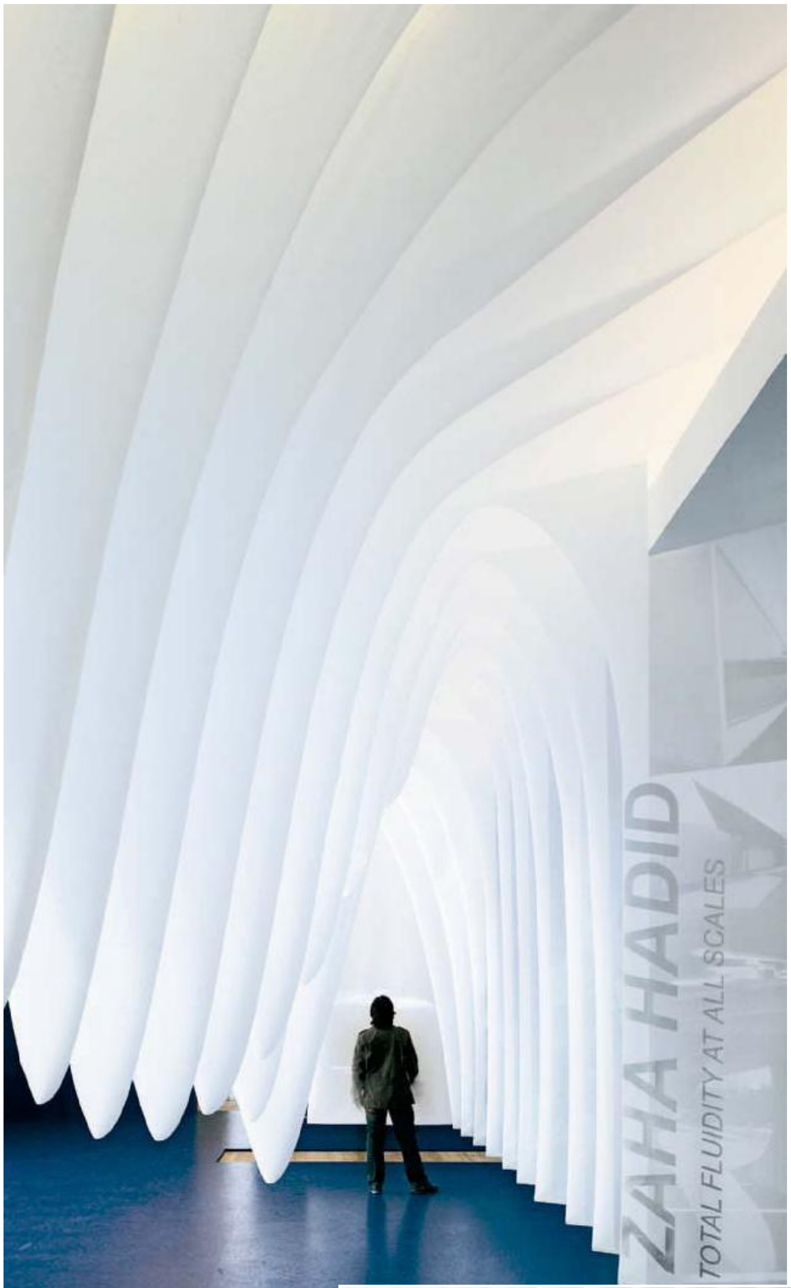
Other such investigations continue. Last year, UNStudio installed an inhabitable object called *Holiday Home* inside Philadelphia's Institute of Contemporary Art. The piece evolved from the architects' theoretical inquiry, calling into question the very notion of a holiday home. Beginning with a gabled form, they extended and extruded it, generating an object with expressive openings. The mutated volume had a lacquered pink interior (in contrast to the white exterior), emphasizing the difference between its inner realm and the surroundings. Like a vacation getaway, the piece conveyed a sense of otherness, removing it tectonically and experientially from the rest of the gallery.

Installations, of course, are not a mere license for cerebral theorizing. Many have a real, pragmatic purpose, allowing architects and engineers to investigate such matters as structure, materials, form, and fabrication. Office dA used *Voromuro* in part to research the firm's design for Villa Moda, an upcoming mixed-use project in Kuwait. Though much larger in scale, the villa's coffered structural system relates to the installation's. With both projects, the Voronoi formulation generates an expressive topology, absorbing differences among individual, constituent parts to create a continuous condition.

In a similar vein, structural engineer Cecil Balmond, with the Arup Advanced Geometry Unit, converted Artists Space, a Manhattan gallery, into a grand structural experiment, called *h_edge*. With 5,000 feet of stainless-steel chain and 5,200 small aluminum plates, laser-cut into X shapes, the project translated a binary system from engineering into positive and negative spaces, creating geometric enclosure within the gallery. Ingeniously, the chains, acting in tension with the plates, formed reciprocal load paths, allowing the freestanding, filigreed installation to support itself. With its chains standing vertically, *h_edge* recalled the Indian Rope Trick, where magicians make cords stand on end.

In some installations, relatively simple gestures heighten spatial attunement, producing overwhelming effects. At the 2007 Lisbon Architecture Triennale, Zaha Hadid turned white polyethylene canvas into a luminous, inverted landscape, a quasi-glacial passage, suspended from the ceiling of Siza's Portuguese Pavilion. The intervention effectively dismantled the purely orthogonal space, reconstituting it with soft fluidity.

Whatever the underlying intentions or spatial outcomes, installations bring a compelling element of time to architects and engineers' concerns with the physicality of space. These projects are architectural, yet ephemeral. In their impermanence, paradoxically, they bring the enduring reality of architecture into focus. ■



LISBON TRIENNALE INSTALLATION (2007), by Zaha Hadid

Within a stringently Cartesian space by Alvaro Siza, flaps of white polyethylene canvas become soft and luminous "stalactites."

PHOTOGRAPHY: © FERNANDO GUERRA

Because your reputation is on the line every day.

We make DuPont™ Tyvek® CommercialWrap® for professionals who build quality into every job. After all, it's architects and contractors like you who have made us the industry leader for over 25 years. And you're why we continue to develop innovative products, systems and services for the commercial market, like the 10-year Limited Warranty that gives added peace of mind with every job and the DuPont™ Tyvek® Specialist Network that supports you on and off the site. DuPont™ Tyvek® Weather Barrier Systems – they're all about building a better building and an even stronger reputation. For more detailed info and specs, visit **construction.tyvek.com**

DUPONT

DuPont™ Tyvek® CommercialWrap® • Wrap Caps • Tape • DuPont™ FlexWrap™ • StraightFlash™ • StraightFlash™ VF

© 2007 DuPont. All rights reserved. The DuPont Oval Logo, DuPont™, Tyvek®, Tyvek® CommercialWrap®, FlexWrap™, StraightFlash™ and StraightFlash™ VF are registered trademarks or trademarks of E. I. du Pont de Nemours and Company or its affiliates.

Tyvek.

CIRCLE 114 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

ARCHITECTURAL HARDWARE
AH07
'ALL-GLASS' ENTRANCE SYSTEMS
AH07 ARCHITECTURAL HARDWARE
CRL

'All-Glass' Entrance Systems
A division of C.R. Laurence Architectural Products

GET A COPY OF THE
UPDATED AH07 CATALOG,
FEATURING ARCHITECTURAL METAL
AND GLASS HARDWARE INSTALLATIONS

'All-Glass' Entrances

View the C.R. Laurence Complete Architectural Designer Site at **crlaurence.com**

SPECIFY WITH
CONFIDENCE,
SPECIFY
C.R. LAURENCE

INVENTORIES
WORLD WIDE TO
SATISFY THE
LARGEST
PROJECTS

Stacking and Folding
Systems

Sliding Interior Systems

UNSURPASSED
QUALITY AND
SELECTION

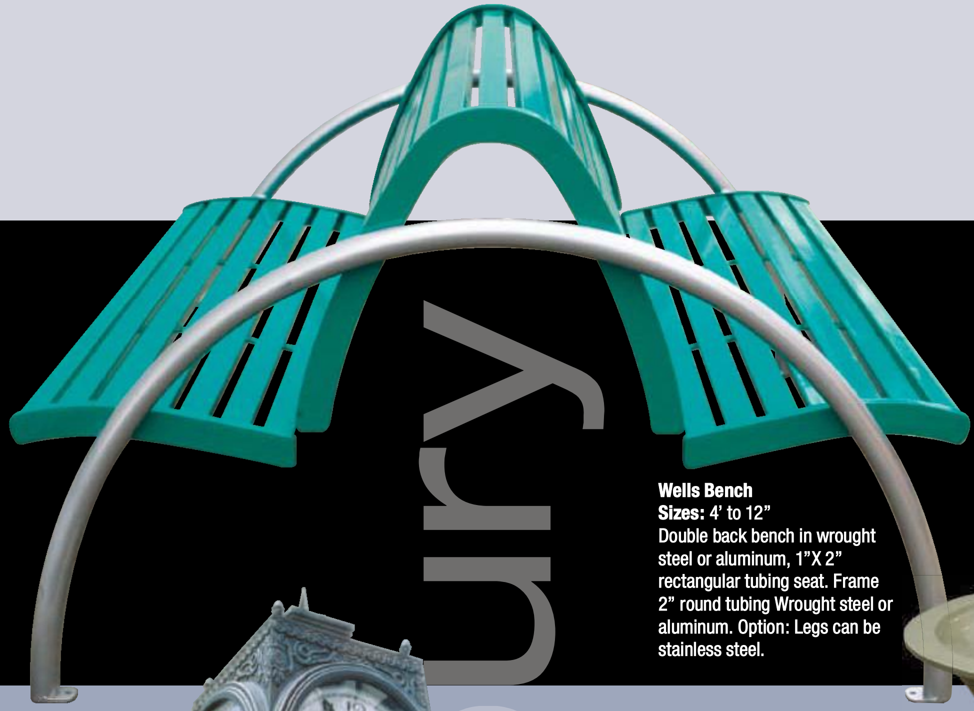
JBB208-5/07

C.R. LAURENCE COMPANY
Architectural Products Manufacturing Division
Phone: **(800) 421-6144** Ext. 7700 • Fax: **(800) 587-7501**

**CIRCLE 115 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/**

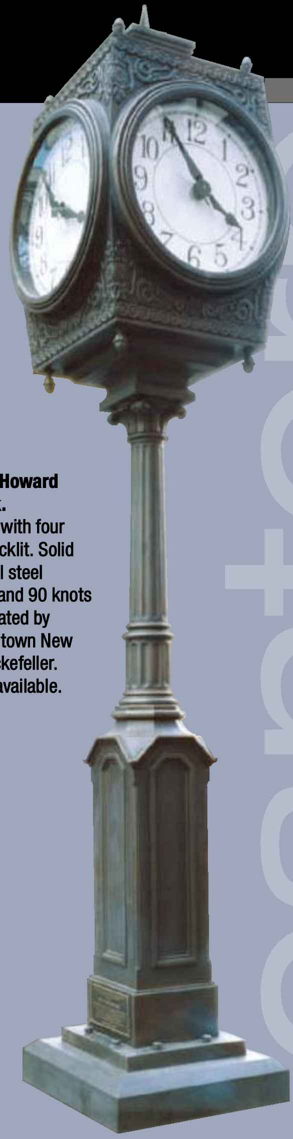
CRL®
crlaurence.com

canterbury international

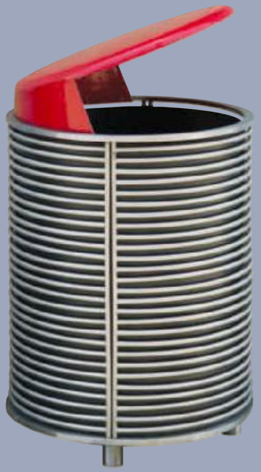


Wells Bench
Sizes: 4' to 12"
Double back bench in wrought steel or aluminum, 1"X 2" rectangular tubing seat. Frame 2" round tubing Wrought steel or aluminum. Option: Legs can be stainless steel.

Florence Planter.
Traditional cast iron planter.
Sizes:
39-1/2" dia. x 16" high
45" dia. x 21-1/2" high
90" dia. x 30" high
Option: aluminum.



Replica of E. W. Howard (Danbury) Clock.
Size: 15' 6" high with four 30" dia. dials. Backlit. Solid bronze. Structural steel support to withstand 90 knots windloads. Dedicated by Alliance for Downtown New York to David Rockefeller. Custom finishes available.



Sydney Trash Receptacle
Sizes: 24.5" dia. x 36" high. Capacity 40 gallons 1/2" stainless steel tubing with cast aluminum top. Side door for ease of trash removal. Rigid removable plastic liner.

CANTERBURY INTERNATIONAL
A DIVISION OF CANTERBURY DESIGNS, INC.

Canterbury International
800.935.7111
323.936.7111
323.936.7115 fax
canterburyinc@earthlink.net
www.canterburyintl.com

CIRCLE 116 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Inspired and Admired

Inventive design with you in mind.

Smart interiors are the result of fresh ideas and intuitive designs. KI leads the way in award-winning furniture and Pallas® Textile solutions for corporate, healthcare and education environments. KI...knowledgeable, innovative and respected worldwide.

1-800-424-2432 | www.ki.com
1-800-472-5527 | www.pallastextiles.com

CIRCLE 65 ON READER SERVICE CARD OR GO TO
ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Record Interiors 2007

1

2

3

4

5

6

PHOTOGRAPHY: © DAICI ANO (1, 3); FOTOWORKS/BENNY CHAN (2); BRUNO HELBLING (4); HISAO SUZUKI (5); ELIZABETH FELICELLA (6)

In this issue, where delicate, mostly white interiors prevail, lightness of hand takes many guises. And though our editors never come to RECORD INTERIORS with a preconceived theme, one often emerges, as it has this year: A pale yet nuanced palette characterizes all six of the issue's featured interiors, evoking serenity and, simultaneously, a sense of drama. Almost contradictory, this duality seems to suggest a contemporary desire for calm refuge—but not without a hint, however subtle, of excitement.

A play of animated against decisively neutral gestures is key to Jin's Global Standard, an eyeglass boutique near Tokyo. Here, a muted palette of off-white surfaces and the geometric lockstep of narrow parallel corridors give way to dynamic optical effects, befitting an optician's shop. Forced perspective, feats of illusory depth, reflections within reflections receding into infinity all color the experience of this unusual retail space.

But whiteness and dynamism take a different tone at Honda's Advanced Design Center, in California, where a glowing "cocoon" of milky, translucent acrylic, molded into streamlined curves, creates a calm, shielded work zone within a highly visible storefront. Heightening the form's implied momentum, its pearlescent skin shimmers with pale fluctuating casts of aqua, green, and purple.

1. Ryuji Nakamura
2. George Yu
3. Kengo Kuma
4. Gus Wustemann
5. John Pawson
6. Asymptote

Equally striking is the Alessi shop in New York City, where jagged light strips edge "folded" walls of palest blue. Within the interior's misty aura, these luminous bands become angular proscenium arches, placing at center stage the high-design objects for sale.

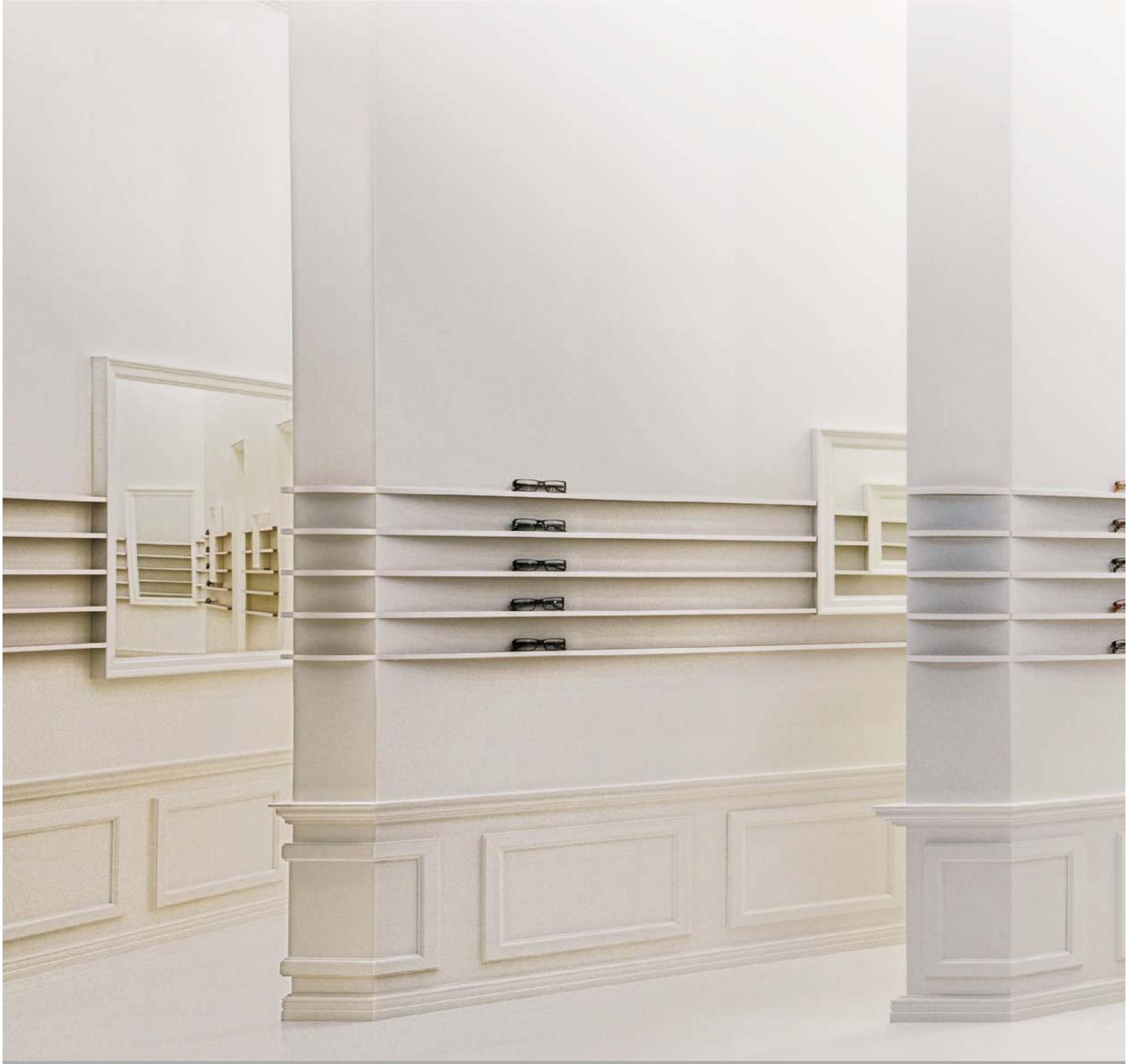
Just as sunlight passes through a piece of ice "appearing bright white in spots, but dark, almost blue, in others," as writer Diana Lind observes, Gus Wustemann's white-on-white Glacier Loft, in Switzerland, glows enigmatically with a subtle and varied luminosity.

And with even quieter serenity, veil-like screens of natural materials—delicate bamboo strips and glass with an aqueous, underwater quality—contribute to a poetic stillness at the Ginzan Onsen Fujiyan, a hot-springs hotel in Japan. While the drama here is low-key, it appears in the atrium's vertical expanse and in the way daylight filters into the baths, illuminating steamy fog or glinting off the water.

An ethereal atmosphere of mystery also permeates the Czech monastery of Novy Dvur, where Minimalist planes of smooth, white plaster virtually sculpt raw daylight. In the sanctuary, the effect is most potent, as the sun's rays enter through hidden skylights and emerge through the side walls of the nave's inner shell.

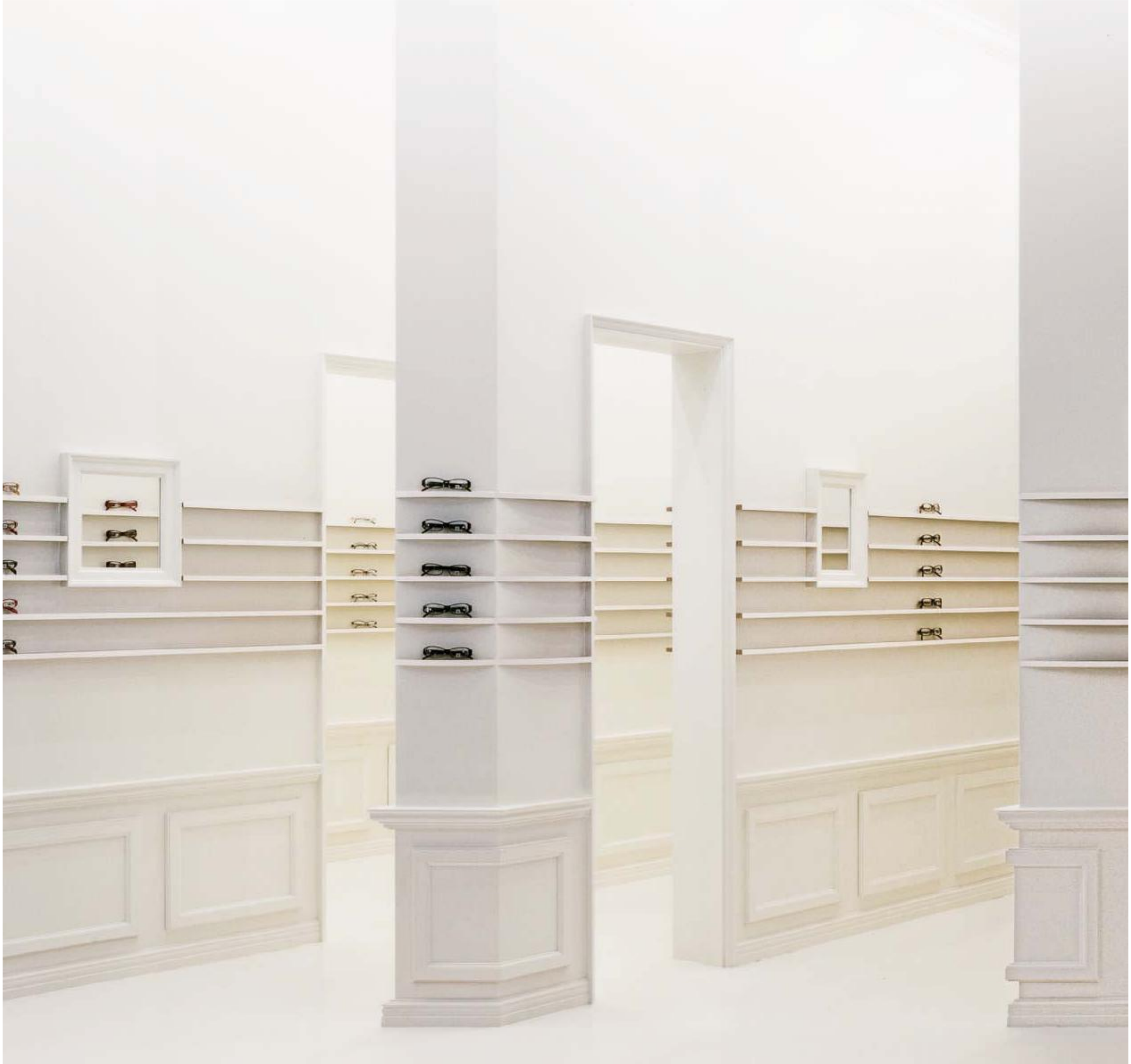
In the following pages, these six diverse projects gradually reveal themselves—all light-hued yet remarkable in their experiential intensity. *Sarah Amelar*

ONLINE: To rate these projects, and to access additional interiors, slide shows, architect portraits, and sources, go to ***architectural record.com/interiors/***.

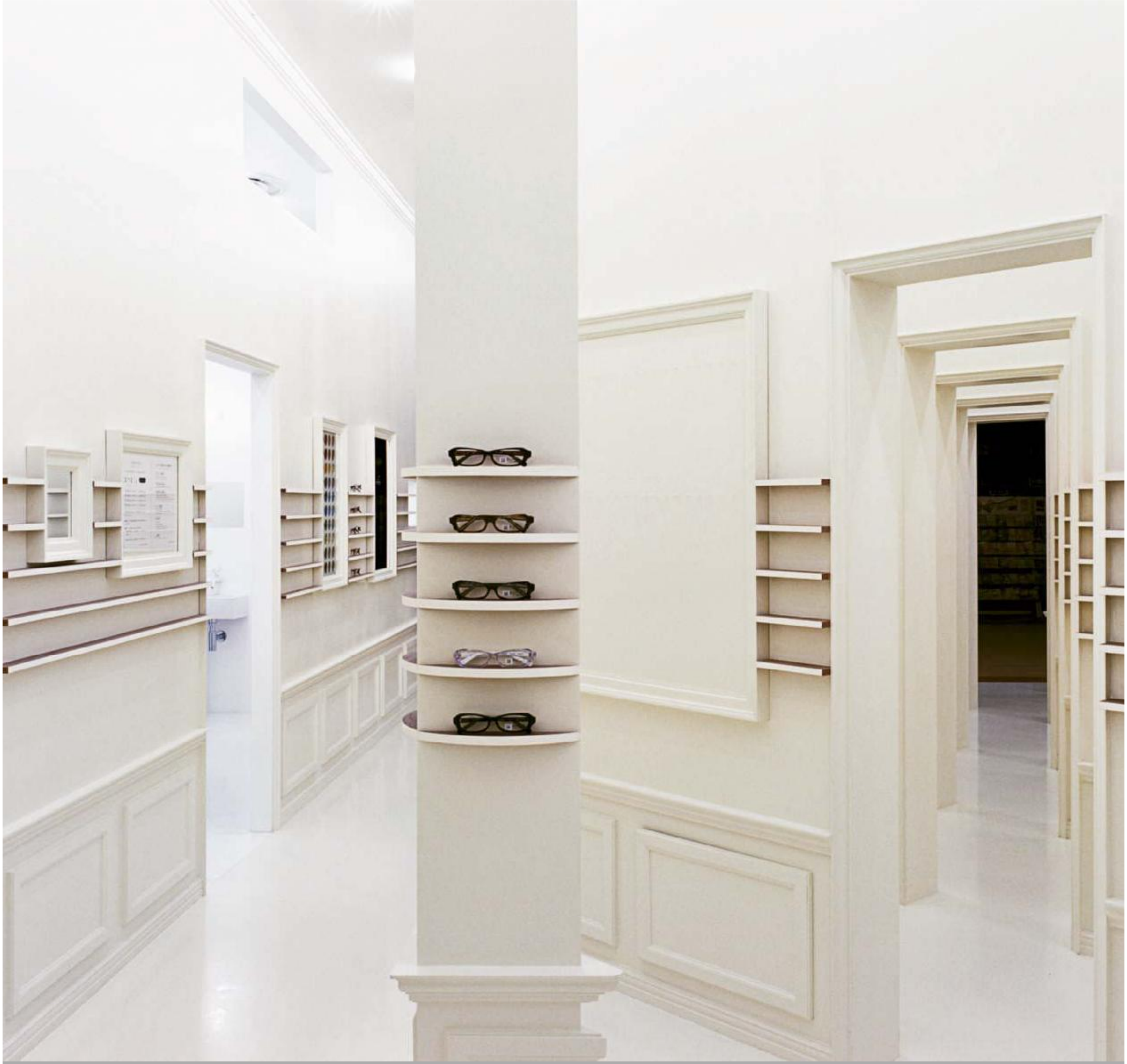


Set inside a mall, the shop features parallel, open-ended corridors slicing across this corner space at a 45 degree angle. Narrow ledges display up to 1,500 pairs of eyeglasses that customers can freely try on. Closely spaced walls and numerous mirrors amplify the sense of multiplicity and spatial depth.

PHOTOGRAPHY: © DAICI ANO



Ryuji **Nakamura** tweaks visual perception with **JIN'S GLOBAL STANDARD**, a curious Japanese eyeglass shop of unfathomable depth

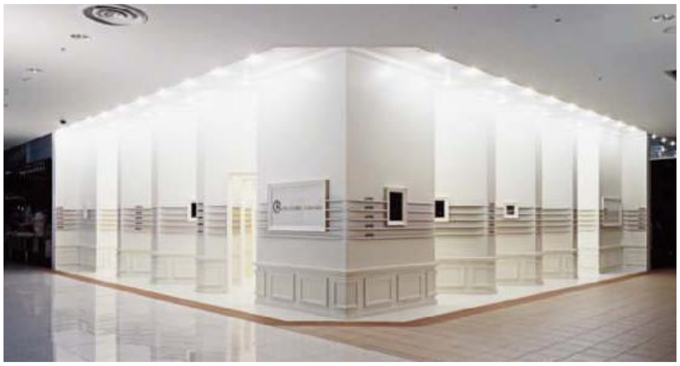


Like stage sets, the sequential doorways appear to recede almost infinitely into space, exaggerating the small shop's actual dimensions. Though perhaps not by design, such perspectival tricks, along with classical moldings, recall Palladio's Teatro Olimpico, in Vicenza, Italy.

By Naomi Pollock

Even though Jin's Global Standard occupies a busy corner inside a shopping center near Tokyo, this eyeglass boutique looks nothing like your typical suburban mall shop. Without flashy signage, conventional display tables, or even open floor area, the store is a visual curiosity, distinguished by a series of 3-foot-wide, 11-foot-high corridors. Formed by freestanding parallel walls that slice across the interior at a 45 degree angle, these deep passages invite customers to slip in for a peek or simply take a shortcut through the shop. "Normally, you don't feel you can go in if you're not going to buy," explains its architect, Ryuji Nakamura. But here, the absence of doors—and the enticement of 1,500 pairs of glasses to try on—welcomes everyone.

The 1,076-square-foot store is the latest addition to Jin's Global chain, headed by a visionary Japanese businessman. Though he'd started out in bags and belts, his discovery of how inexpensively glasses could be fabricated in China gave him the idea of turning prescription eyewear into must-have accessories. The frames, designed by his staff in Japan and then manufactured in China, are fit with made-to-order lenses at each of his 20-plus boutiques for less than $90 a pop (total)—and in under 30 minutes.



Here, production takes place in a narrow, L-shaped zone along the square space's two inner faces. Cleverly and compactly sequestered behind walls, one leg contains waiting and eye-exam areas, and the other lens-molding and service counters, where customers place and pay for their orders. The corridors stand evenly spaced between a triangular pillar at the cash register and an encased structural column bearing subtle signage at the shop's outermost corner. When the shop closes for the night, the employees simply pull down a cloth net (all the security needed here), instead of metal grilles or sliding-glass doors.

The boutique's well-ordered geometry yields some unexpected visual experiences and twists of perception. While it is impossible to lose sight of the mall through the corridors, these discrete, floor-to-ceiling, canyonlike slots (each outfitted with its own sprinklers and halogen light fixtures) are simultaneously open-ended and narrowly enclosing. Nakamura relieves that tension with a pair of perpendicular circulation routes that cut through the walls with 2-foot-wide doorways. When viewed in perfect alignment, the openings appear to nest one inside the next, receding into space with amplified depth, reminiscent of a stage set—as striking from across the mall as from up close. Though this tunneling looks as if it could go on forever, it gently leads toward the cash register. Wall-mounted, rectangular mirrors compound the effect. Variously sized and randomly arranged, these surfaces bounce reflections back and forth along the length of each corridor, sometimes capturing reflections within reflections within reflections.

Project: *Jin's Global Standard, Nagareyama, Chiba, Japan*
Architect: *Ryuji Nakamura Architects—Ryuji Nakamura, principal*
Lighting: *Ismi—Izumi Okayasu*
General contractor: *AIM Create*

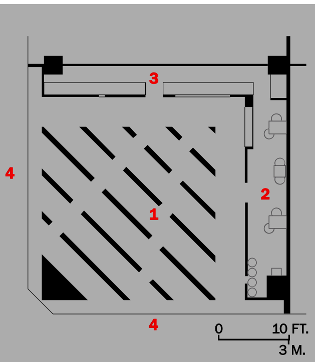
Painted off-white, the freestanding, 8-inch-thick walls carry classicizing, wraparound molding at their tops, panels concealing storage cabinets at their bottoms, and five tiny shelves, each a mere 2-inches deep, in between. Mounted at or near eye-level, these ledges serve the essential function of openly displaying the current stock—amazingly, in Japan shoplifting is not a serious problem—but their purpose is as much decorative. "I think of them as a pattern," the architect explains. The horizontal stripes of wood enliven the walls' smooth surfaces while the rows of eyeglasses add color and texture.

"In Japan, we don't have a strong idea about decoration, but [I realized] it can change the feeling of architecture entirely," observes Nakamura, who cultivated his taste for adornment while working on Jun Aoki's ornate Roppongi Hills Louis Vuitton boutique. Following that project, Aoki introduced his protégé to the eyewear entrepreneur. Though the young architect only opened his office in 2004, he has already completed three other eyeglass-shop interiors for the same client and has another in process, each one unique. At the Tokyo boutique, Nakamura suspended the frames from metal rings attached to a fabric wall. And in Kyoto, he showcased them in insect-display cabinets imported from France.

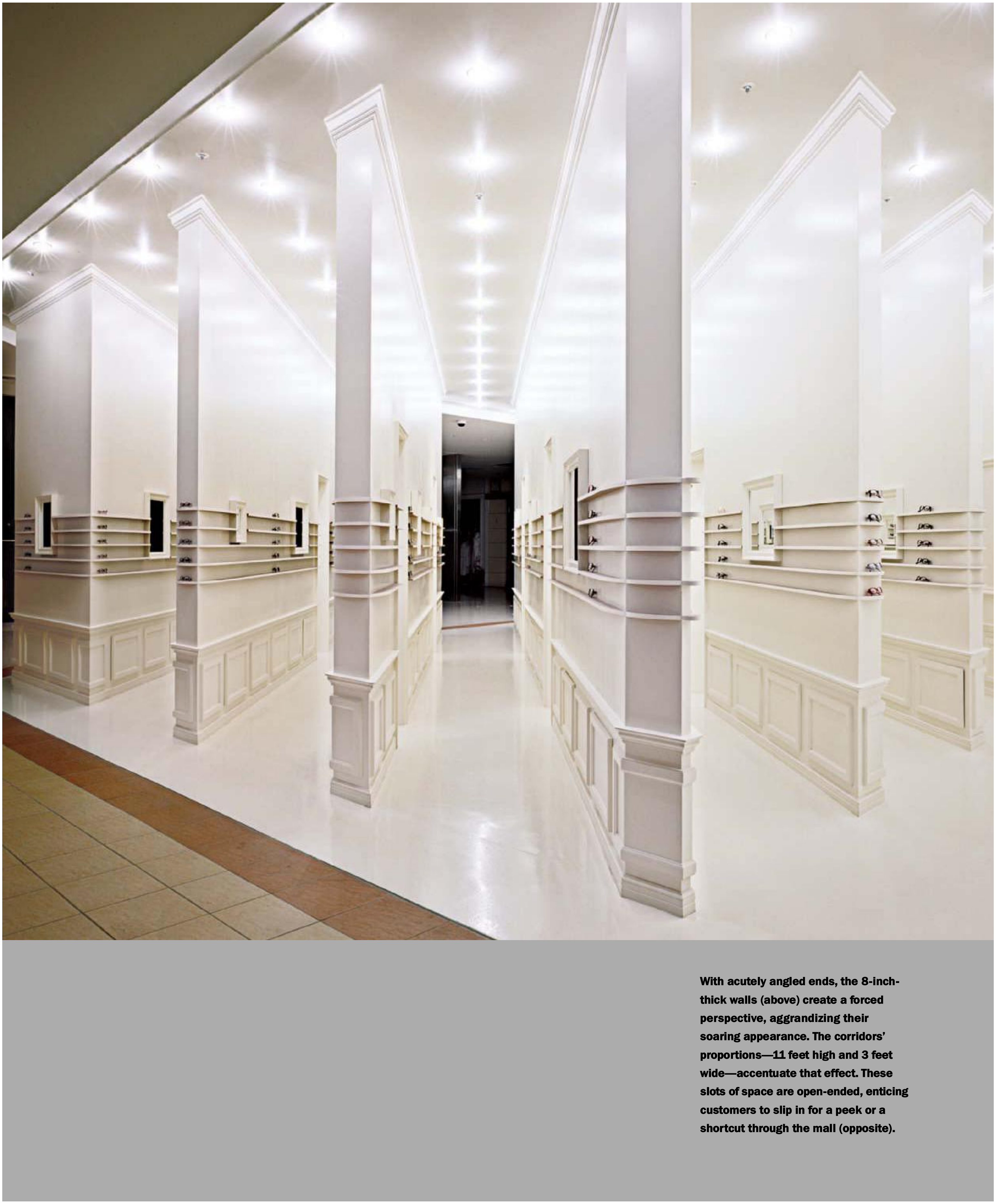
The fast pace of these commissions comes as no surprise; this latest shop, with its clever scheme, took three months to design and a mere four weeks to build. Already the most profitable of the chain's outlets, it may well enjoy a long shelf life. But in Japan, where retail interiors typically last no more than five years, remodeling is as routine as getting new glasses. ■

Naomi Pollock is RECORD's Tokyo-based correspondent.

For sources, go to page 142 or architecturalrecord.com/projects/.

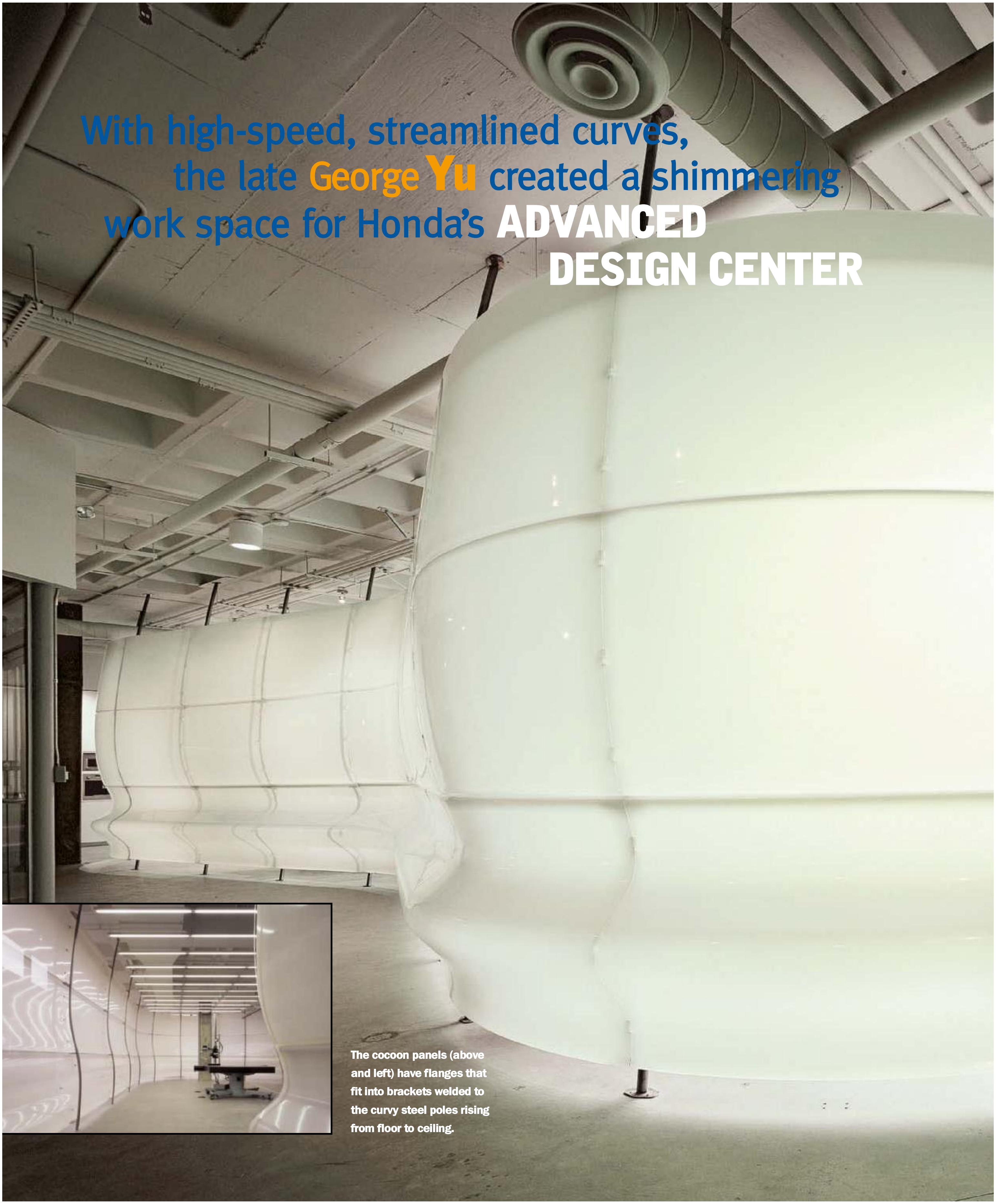


1. *Eyeglass selling floor*
2. *Eye exam area*
3. *Service counter*
4. *Mall passageway*

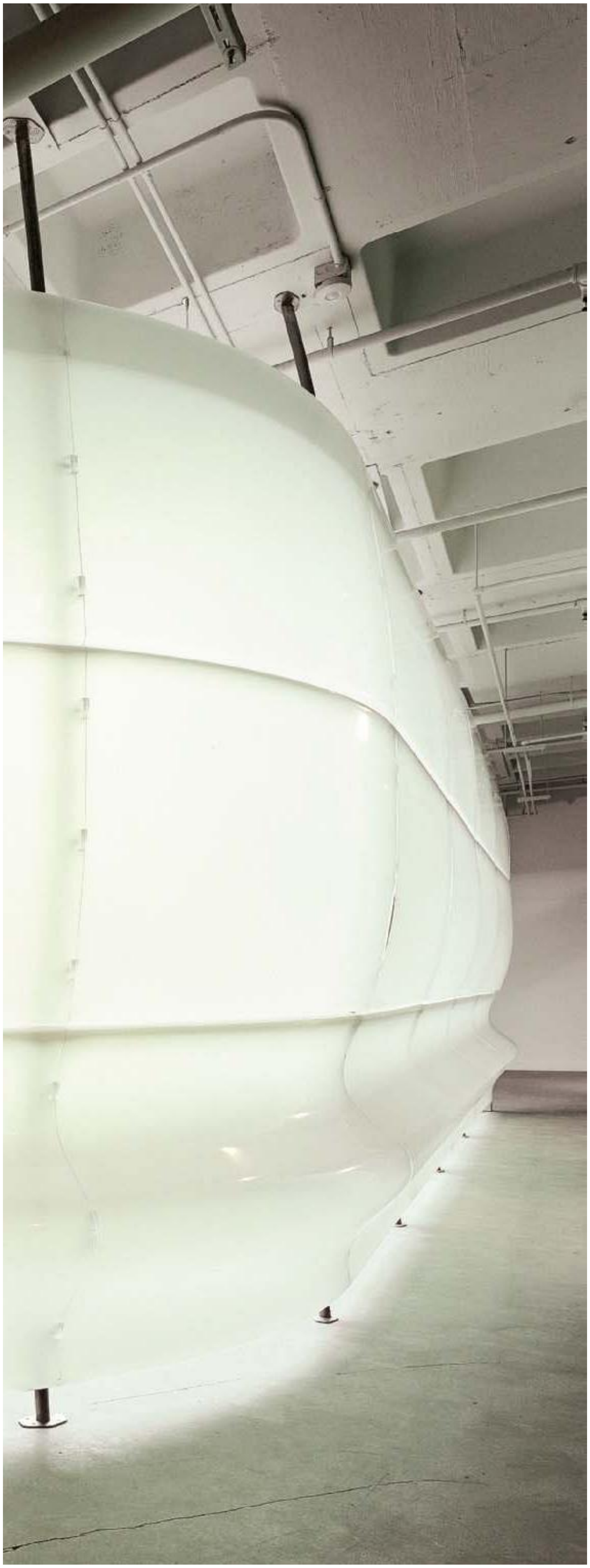


With acutely angled ends, the 8-inch-thick walls (above) create a forced perspective, aggrandizing their soaring appearance. The corridors' proportions—11 feet high and 3 feet wide—accentuate that effect. These slots of space are open-ended, enticing customers to slip in for a peek or a shortcut through the mall (opposite).

With high-speed, streamlined curves, the late George Yu created a shimmering work space for Honda's ADVANCED DESIGN CENTER



The cocoon panels (above and left) have flanges that fit into brackets welded to the curvy steel poles rising from floor to ceiling.



PHOTOGRAPHY: © FOTOWORKS/BENNY CHAN

By Sarah Amelar

Top-secret research is not usually hidden behind the bare, plate-glass windows of a corner storefront at the intersection of two busy shopping streets. But that's exactly where Honda, the automotive company, has inserted its new Advanced Design Center, a studio where scrupulously guarded concepts for future cars are born.

Before moving to this surprisingly exposed location in the Old Town area of Pasadena, California, the 10-person advanced-design team, an in-house R&D engine, had been buried deep in Honda's corporate campus some 25 miles down the freeway, in Torrance. "We definitely needed a cooler, more vibrant environment—right in the thick of a hot neighborhood—to inspire us," says Dave Marek, the company's chief auto designer for its R&D Americas division. The freedom to develop forward-thinking, even risky, ideas in a totally independent venue, where no other staff members could second-guess them, he suggests, also had real appeal.

Pasadena offered a lively creative scene within easy access to Honda headquarters; and just up the road from Old Town is the Art Center College of Design with its world-class automotive design school (where Marek studied and now teaches). Plus, the city already had a strong connection with Honda through the car company's longtime sponsorship of the Rose Bowl and Rose Parade there. But how to give the Advanced Design studio an intriguing yet stealthy presence—and even more crucial, how to keep the team's secret workings under wraps in such a curiously public spot?

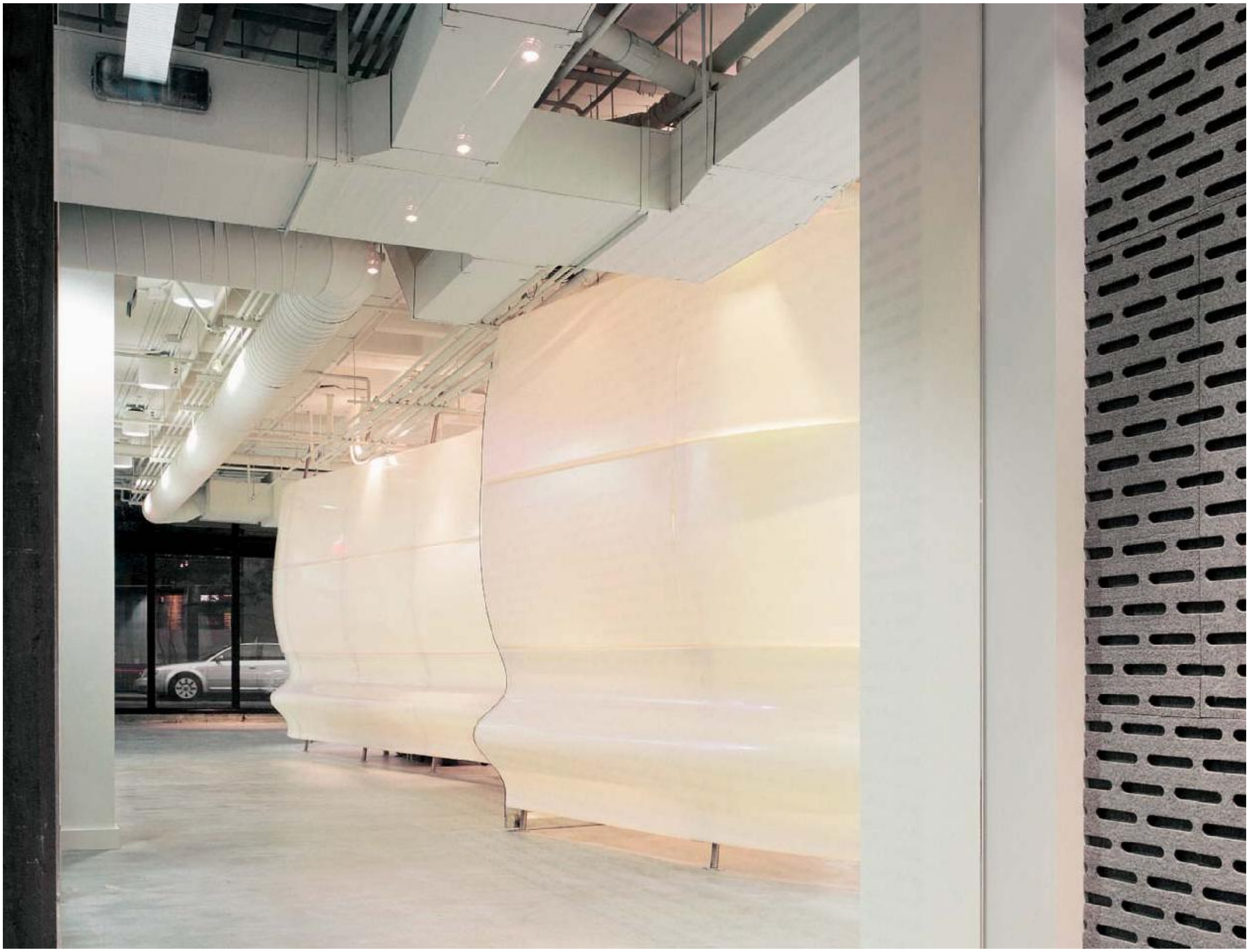
Given the center's focus on innovation, the solution clearly had to be the architectural equivalent of the experimental car of the future. When Marek—openly uncorporate in his purple-tinted glasses, long ponytail, and backward baseball cap—met architect George Yu, he sensed an immediate creative kinship. Yu, who died of cancer this past July, had a history of rethinking conventional workplaces and exploring the possibilities of sometimes ordinary materials and cutting-edge, often digital, technologies, as with the Virgin Digital/Lost Boys studio, in Vancouver, where he and Jason King created sheer polyester window coverings embedded with light-responsive "memory coils" [RECORD, December 2000, page 100] and IBM's e-business center, in Chicago, where they integrated plasma screens and lenticular coatings into the interior furnishings [RECORD, September 2001, page 100].

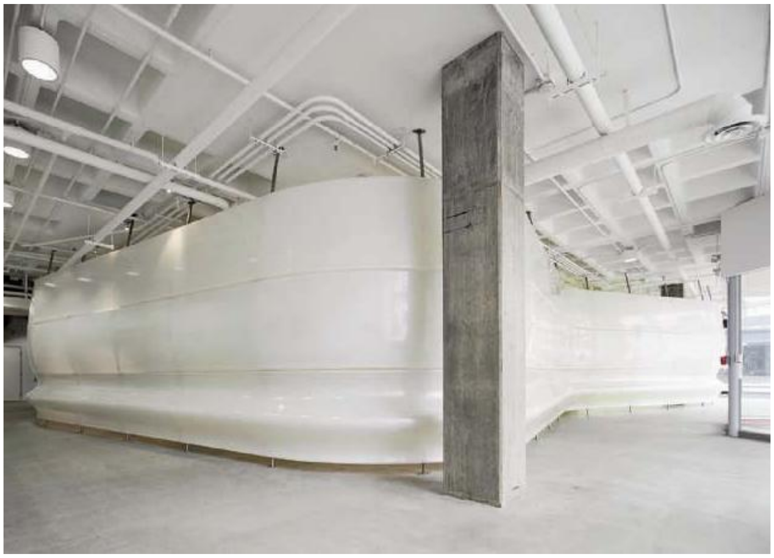
When Yu toured Honda's Torrance facility early in the project, he was captivated by the computer-controlled milling machines on which designers make high-density foam, rapid-prototyping molds for full-scale car models. Excited by the prospect of borrowing this technology, he asked for permission to "play with" the equipment after-hours to create architectural components for the Pasadena studio. His concept was to insert into that 6,000-square-foot space, at the base of a 1904 building, an undulant "cocoon" of translucent acrylic. Since local ordinance prohibited storefront window coverings, the idea was to shield the 10 designers' workstations and model shop from street view, while filtering daylight into that inner realm.

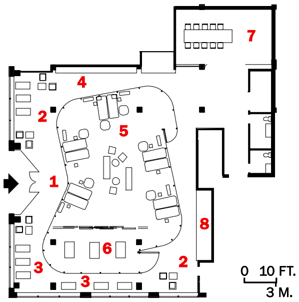
With Honda's milling equipment and Rhino, a software used by car designers, he produced 12 different double, dense-foam molds for a total of 99 cocoon panels, each about 4-by-6 feet. Next, under high heat, UV-rated acrylic sheets were pressed onto the forms. Assembled on-site, three registers of panels fit onto bracketed stainless-steel poles that rise with gentle S-curves from the studio's polished concrete floor to its ceiling. Forming a single discrete object, the acrylic stops short of both ceiling and ground planes.

The resulting structure evokes an auto body in its deep sheen and streamlined curves—streaking through space with

Project: *Honda Advanced Design Center, Pasadena, California*
Architect: *George Yu Architects—George Yu, principal; Sandra Levesque, senior designer; Daniela Franz, Marius Eggli, design team*

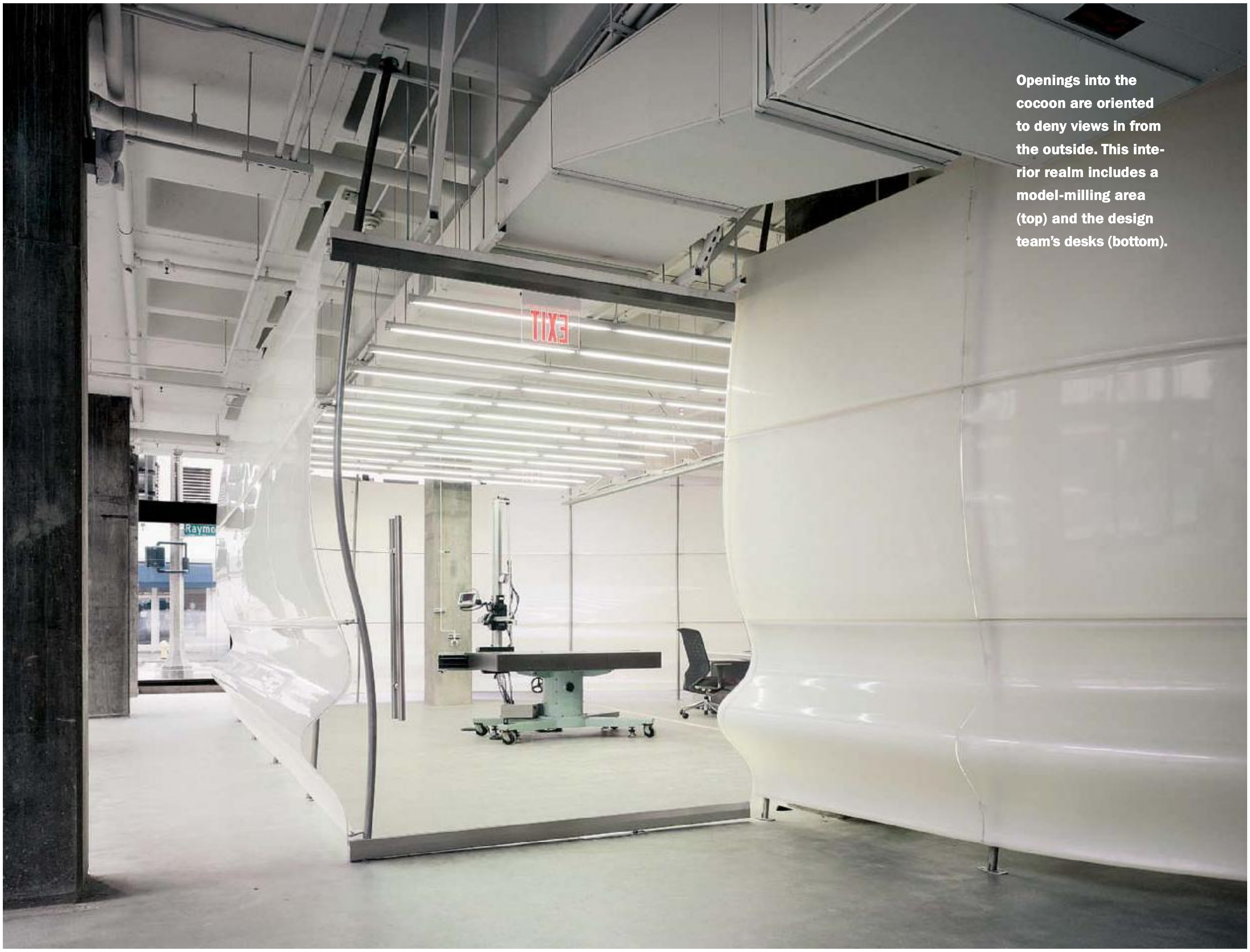






1. *Lobby*
2. *Lounge*
3. *Gallery*
4. *Kitchen*
5. *Design studio*
6. *Model shop*
7. *Conference*
8. *Library/archive*

The studio has a floor of polished concrete and a painted-white ceiling with exposed ducts (left and above). Textured, waterjet-cut felt (above, far right in photo) lines the conference room.

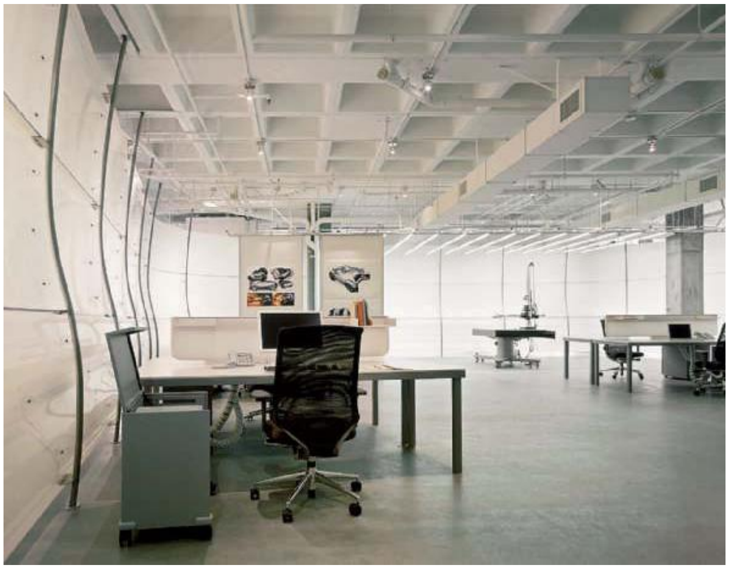


Openings into the cocoon are oriented to deny views in from the outside. This interior realm includes a model-milling area (top) and the design team's desks (bottom).

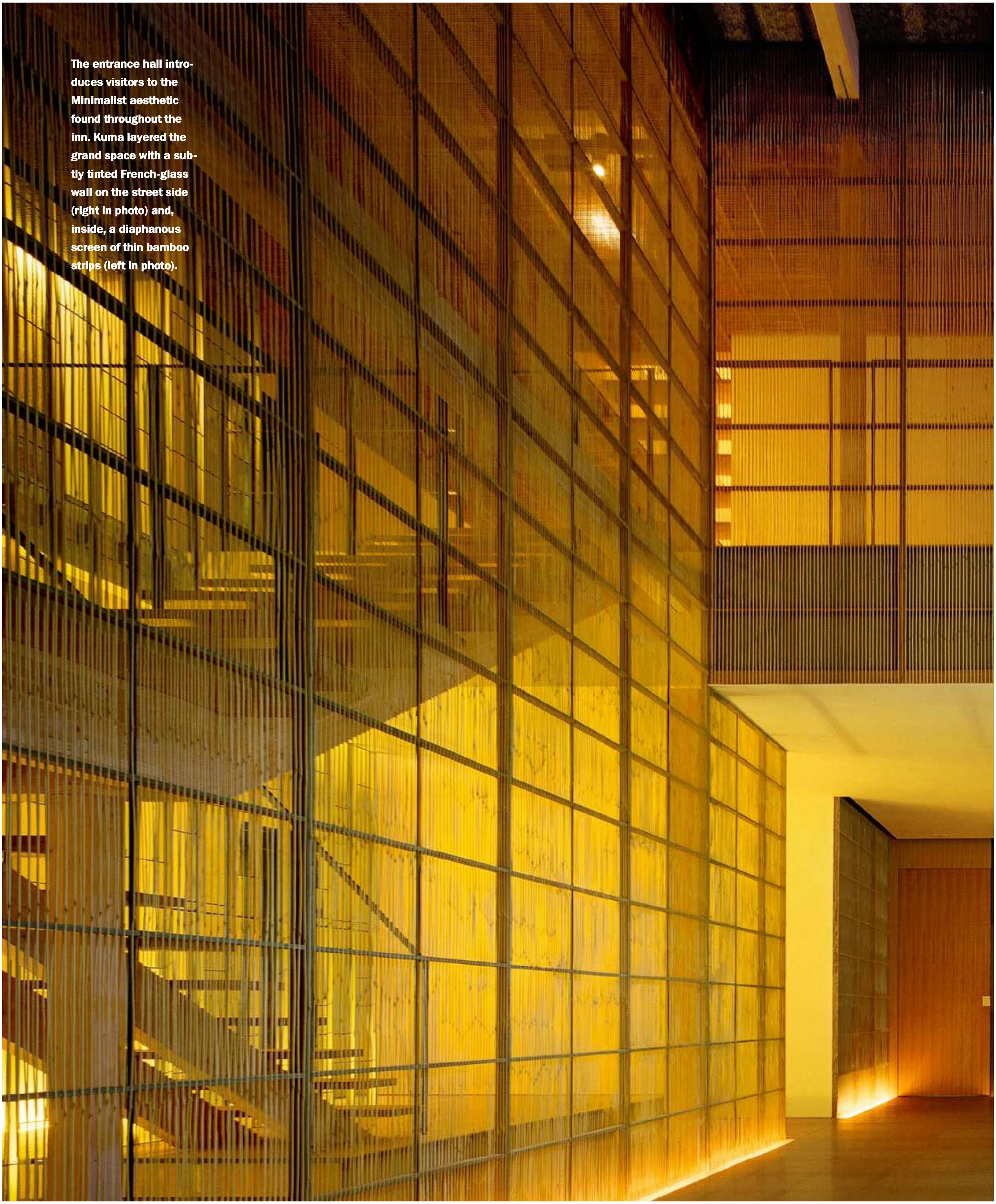
implied momentum—but this great stretch limo of a studio (and stretch is the operative word) is far curvier than any car on the road. Adding to the dynamism, Yu chose a pearlescent white acrylic that changes constantly with the light, taking on subtle purple, green, or aqua casts.

Around the cocoon, Yu created an enclosed meeting room, lined in waterjet-cut felt; a sleek, open kitchen along one wall; and free-form space for gallery displays (including models of nonconfidential car designs), visible from the street, and future lounges, or break-out zones from the studio.

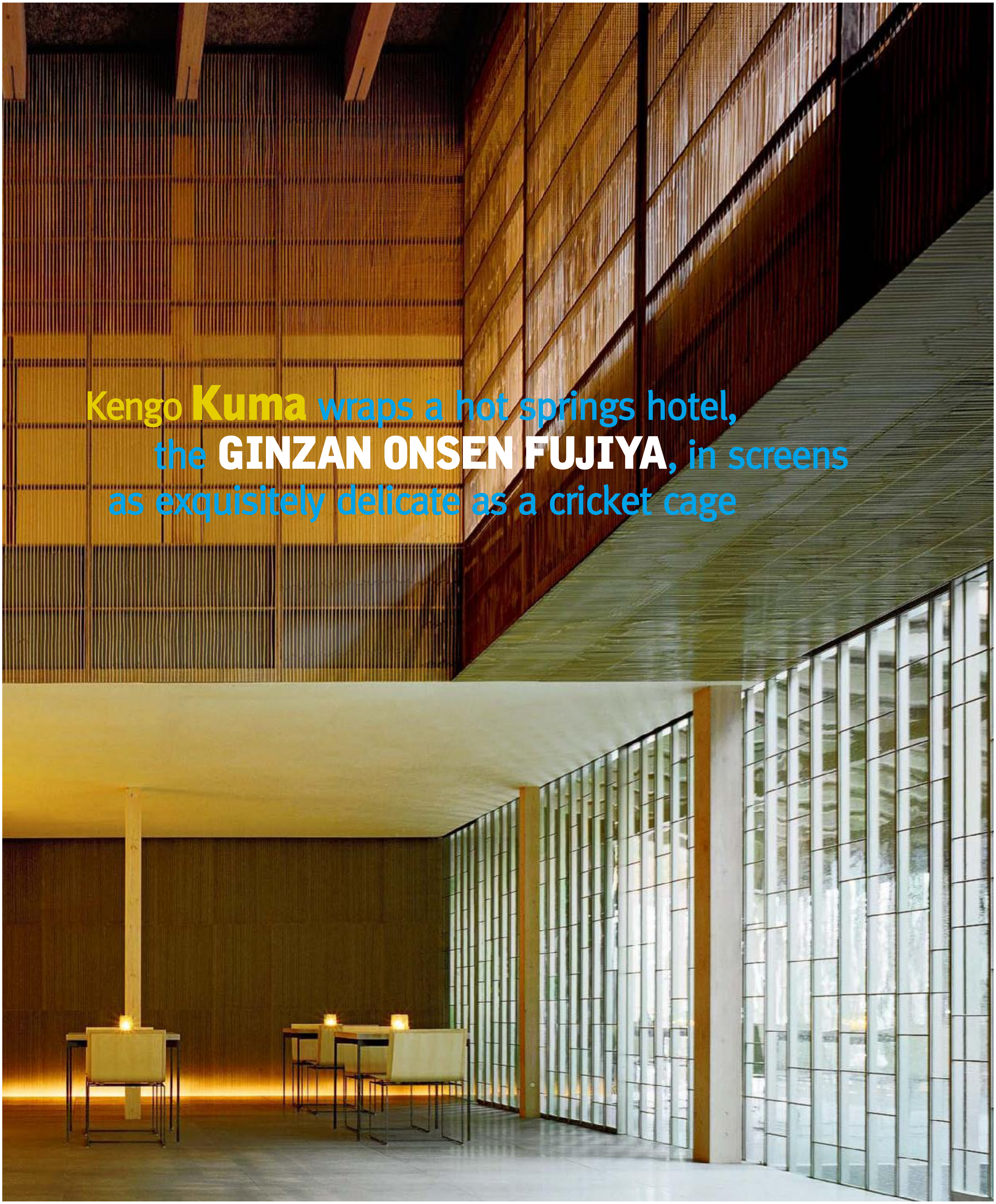
The relationship between this interior realm and passersby remains a curious one. The cocoon looms larger than life, glowing from within at night, veering tantalizingly close to the plate glass, yet revealing only the moving shadows of its occupants. Except during the occasional party or reception in the break-out zones, the place is closed to the public. (And there was absolutely no exterior signage, no mention of Honda, until confused delivery workers convinced the studio to post a makeshift placard.) Showcased yet inaccessible, speeding yet stationary, the mysterious cocoon hovers. Quietly powerful as subliminal advertising, it remains an almost-open secret. ■



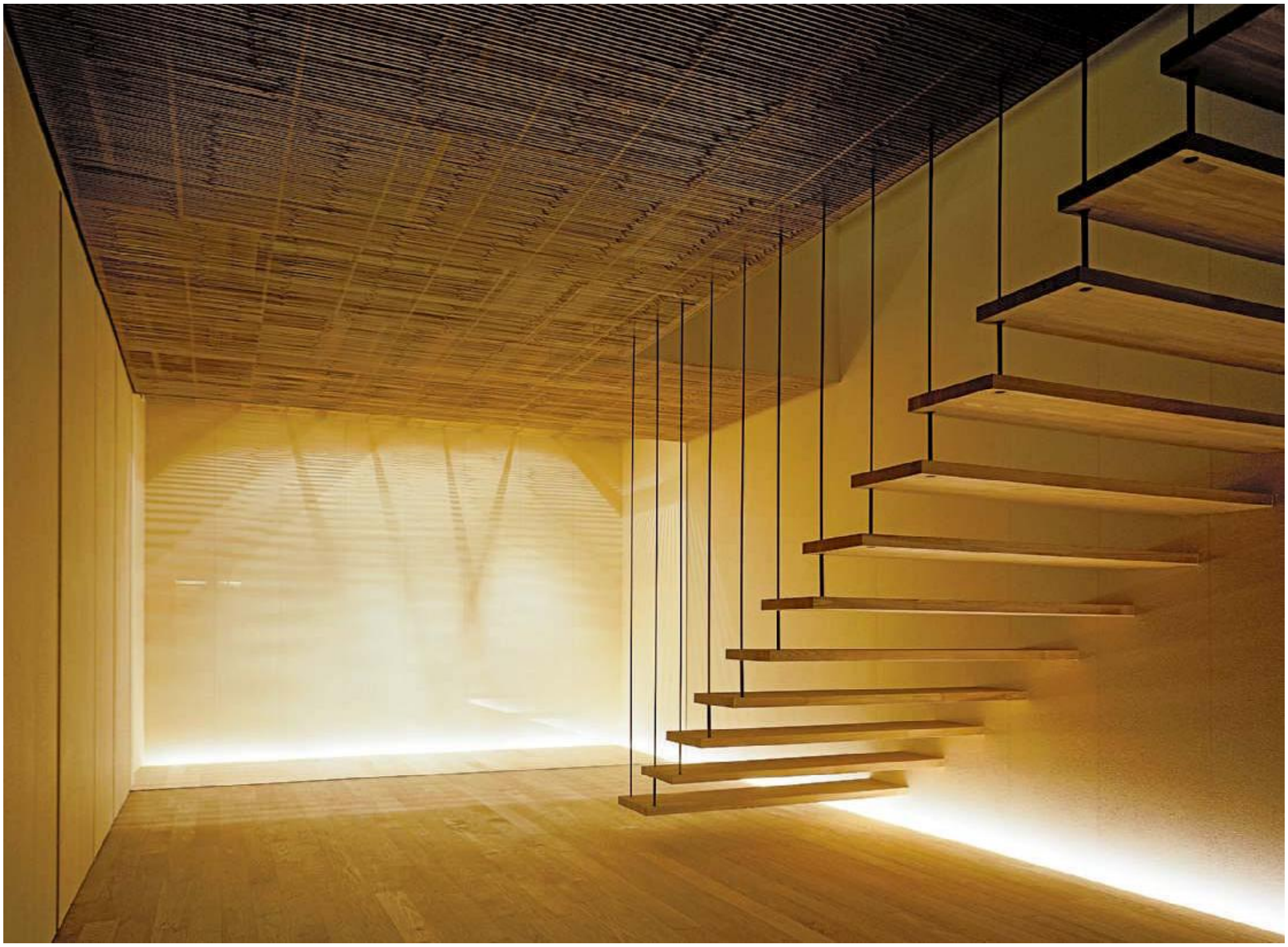
For sources, go to page 142 or architecturalrecord.com/projects/.

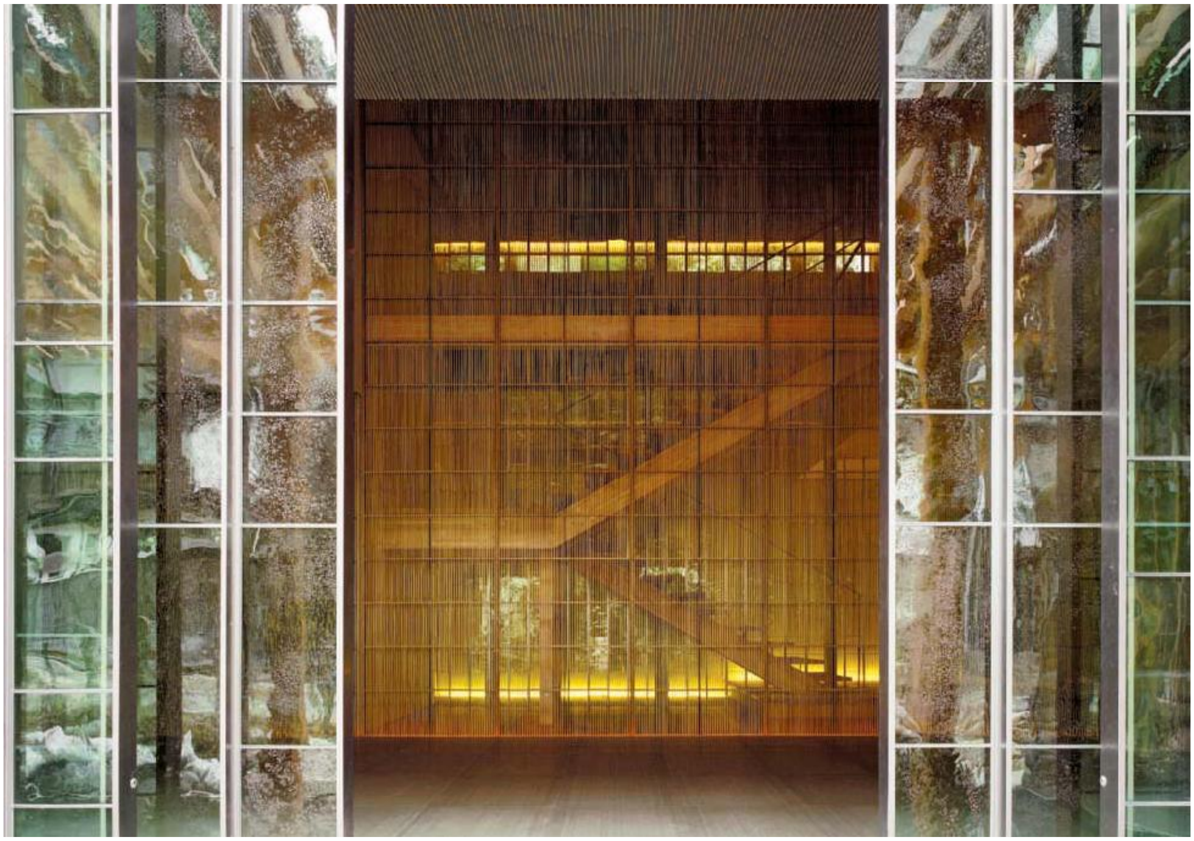


The entrance hall introduces visitors to the Minimalist aesthetic found throughout the inn. Kuma layered the grand space with a subtly tinted French-glass wall on the street side (right in photo) and, inside, a diaphanous screen of thin bamboo strips (left in photo).



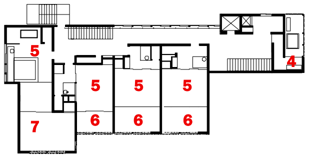
Kengo **Kuma** wraps a hot springs hotel, the **GINZAN ONSEN FUJIYA**, in screens as exquisitely delicate as a cricket cage



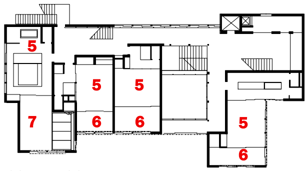


Subtly lit treads suspended from the ceiling on steel rods give a stair connecting the top two floors a sense of floating in space (above). A 700-year-old French handblowing technique called *dalle de verre* was used to create part of the almost-transparent glass entry wall (left).

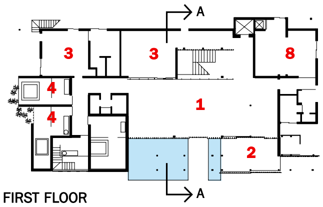
By Clifford A. Pearson



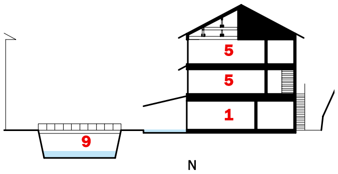
THIRD FLOOR



SECOND FLOOR



FIRST FLOOR



SECTION A-A

1. *Lobby/lounge*
2. *Café*
3. *Office/staff*
4. *Communal bath with dressing area*
5. *Guest room*
6. *Veranda*
7. *Dining*
8. *Kitchen*
9. *Ginzan River*

Just as gene splicing raises controversies in the field of biology, experiments in recombinant architecture pose both practical and philosophical dilemmas. In reconfiguring a 100-year-old *onsen* (hot spring hotel) in Japan's snow country, architect Kengo Kuma raises such issues, grafting modern elements onto historic roots and giving traditional design strategies contemporary interpretations. While strict preservationists may argue with his hybrid approach to history and construction, Kuma fuses eras in a manner that is simultaneously radical and subtle.

Nestled at the bottom of a narrow valley in Yamagata Prefecture on the main island of Honshu, the Ginzan Onsen Fujiya stands shoulder-to-shoulder with 13 other inns facing the Ginzan River. Although most of the buildings have been altered over time, they still form a historic ensemble with powerful appeal to tourists and television crews (the popular 1983 Japanese series *Oshin* was shot here). So breaking ranks with the scale or massing of its neighbors was out of the question.

"We wanted to retain the continuity of the old facade while introducing a new spirit and modern amenities," explains Kuma. To do so, the architect took apart the existing building, then reassembled it using old and new wood members. He kept the original silhouette and traditional Japanese post-and-beam construction, but inserted larger, wood-framed windows and a new sliding glass entry wall. "The idea was to connect the street with the lobby inside," says Kuma. "So we established a new sense of transparency."

Recessed beneath sloping wooden eaves and set behind a pair of reflecting pools, the entry wall reveals a materiality that hints at the era-blending design within. Here, Kuma employed a centuries-old, hand-blown-glass technique from France called *dalle de verre.* The vitreous panels, set within a steel frame, create a slightly mottled, subtly stained greenish-blue surface that infuses the lobby with an almost aqueous character. And instead of welcoming guests into a low-ceiling reception space (as is customary in Japanese inns), he wows them with a two-story-high atrium furnished with modern tables, chairs, and sofas that he designed with a Zen-like simplicity of form.

Layering space with screens is a traditional Japanese device, but Kuma imbues it with an inventive spirit by choreographing a sequence of entry rooms divided by veil-like walls of remarkable materials. Beyond the gridded panes of *dalle de verre* comes a two-story-high partition of thin bamboo strips that reveals a scissor stair at the back of the building. Master craftsman Hideo Tanaka sliced 30,000 poles of bamboo from Oita Prefecture, on the island of Kyushu, into 1.2 million strips, each 4 millimeters wide, and attached them to sectional frames to create this ethereal divider and others throughout the hotel. The thin strips retain the idiosyncratic bumps and crooks of the original bamboo poles, establishing a sense of natural variation within their vertical repetition. They practically beg you to explore them with your fingers.

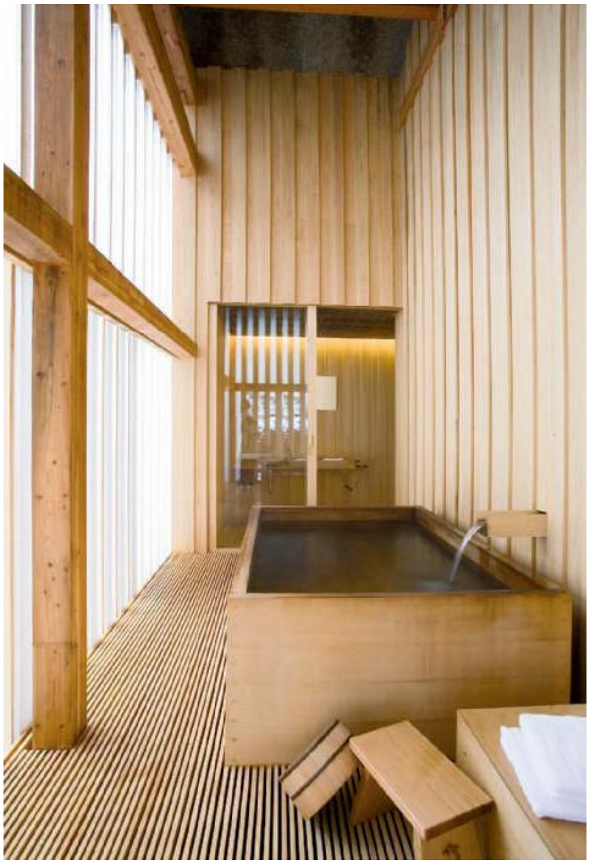
Material investigation—especially with buildings' skins—has informed much of Kuma's work over the years, from his Water/Glass Villa in Atami, Japan, where he created a poetic dialogue between reflective sur-

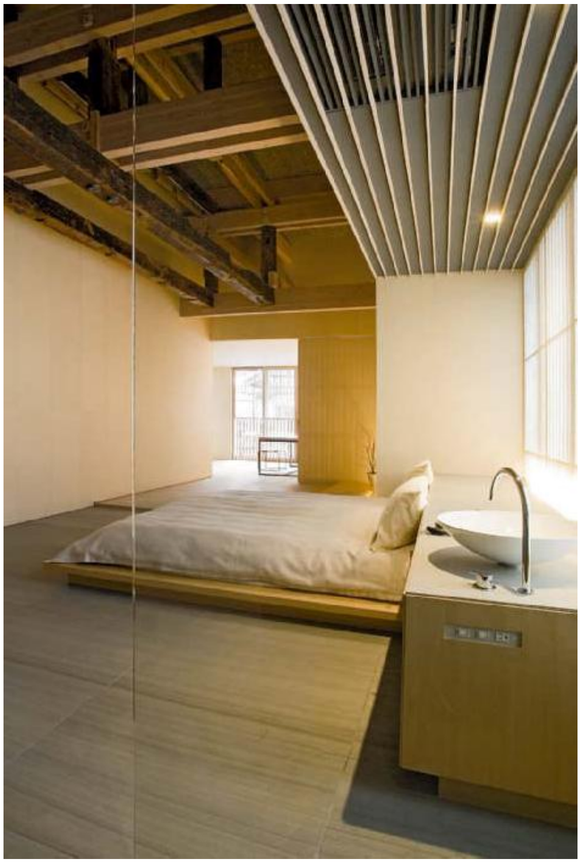
---

Project: *Ginzan Onsen Fujiya, Obanazawa, Japan*
Architect: *Kengo Kuma & Associates—Kengo Kuma, principal in charge; Makoto Shirahama, project architect*
Engineer: *K. Nakata & Associates*
Lighting designer: *EPK*
General contractor: *Aiwa Construction*

Fourteen *onsen* face the Ginzan River at the bottom of a narrow valley, creating a cherished historic ensemble (below).

PHOTOGRAPHY: © DAICI ANO, EXCEPT AS NOTED





Daylight filters into one of the inn's communal baths (above), where minimally detailed wood elements quietly add to the relaxing aura. The same sensibility informs the guest rooms, including one of three large suites (above, right).

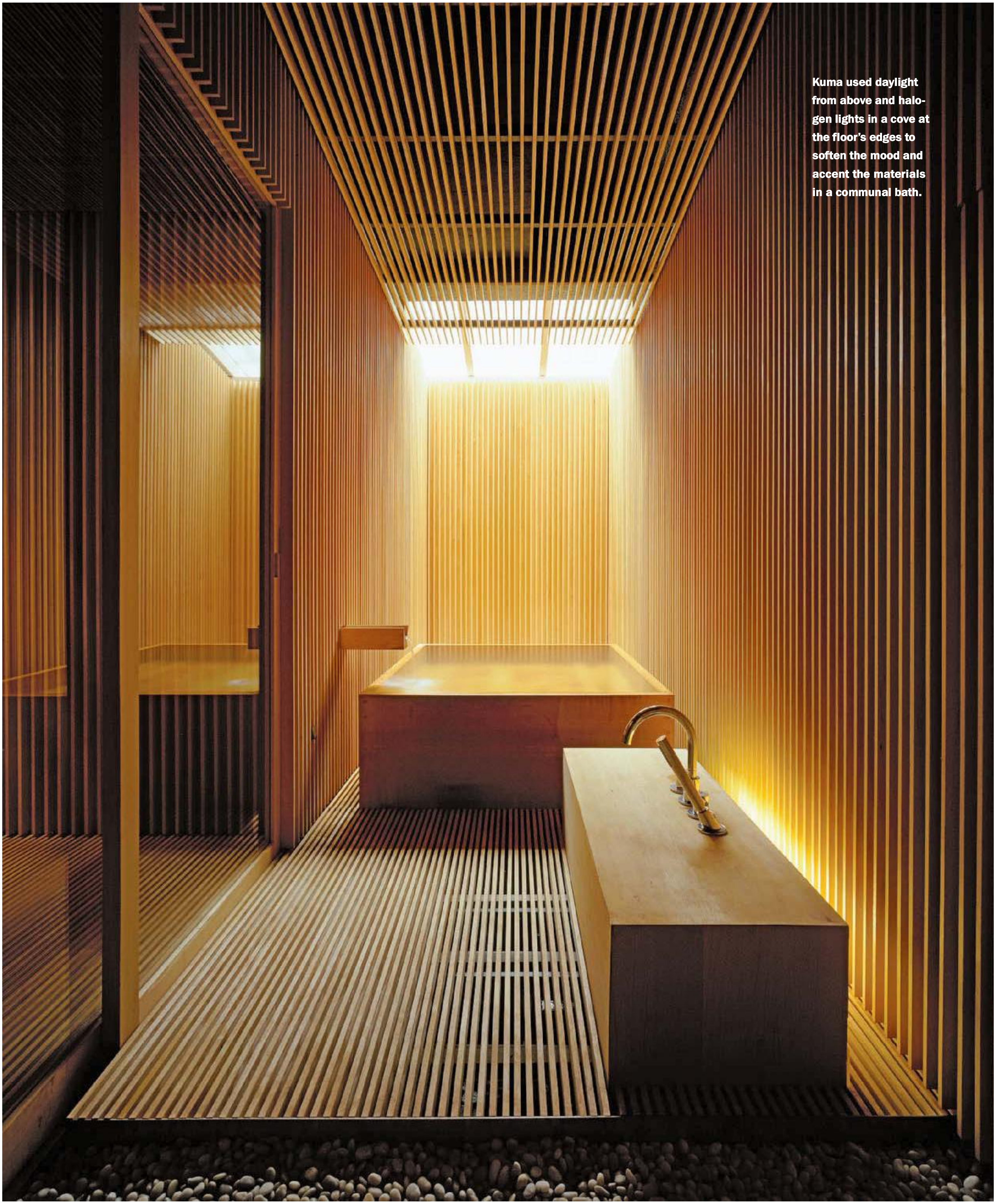
faces, to his Lotus House near Tokyo [RECORD, April 2006, page 98], where he subverted the weightiness of stone by creating a porous checkerboard of travertine plates suspended from stainless-steel bars. At the Fujiya *onsen*, Kuma has designed rooms with generous, modern proportions and wrapped them in traditional materials crafted the old-fashioned way. Just as Tanaka stripped and assembled the bamboo for the many screens, so Masato Shida oversaw artisanal production of the *dalle de verre* in France. Handmade *Echizen-tesuki* paper, which gets its uneven surface from water dripped on it during its manufacture, graces many of the inn's interior walls and partitions. For the communal baths, Kuma used a range of materials: bamboo on one, *hinoki* (a Japanese spruce) on another, and *sanseikuro* (a Chinese granite that has a grain similar to wood) on a third. The sun's rays filter into each bathing area, animating the spaces with subtle changes over the course of the day. "Daylight is really important," states Kuma. "It brings out the materiality."

In renovating the 10,000-square-foot *onsen*, Kuma reduced the number of guest rooms from 12 to eight, making them larger and giving each a small, private bath. He eliminated most furnishings, providing each room with ash-veneer cabinets, bentwood chairs, and an ash table, all of his own design. "I was thinking of two things," says Kuma of this project, "focusing on the essence of the materials and minimizing the details."

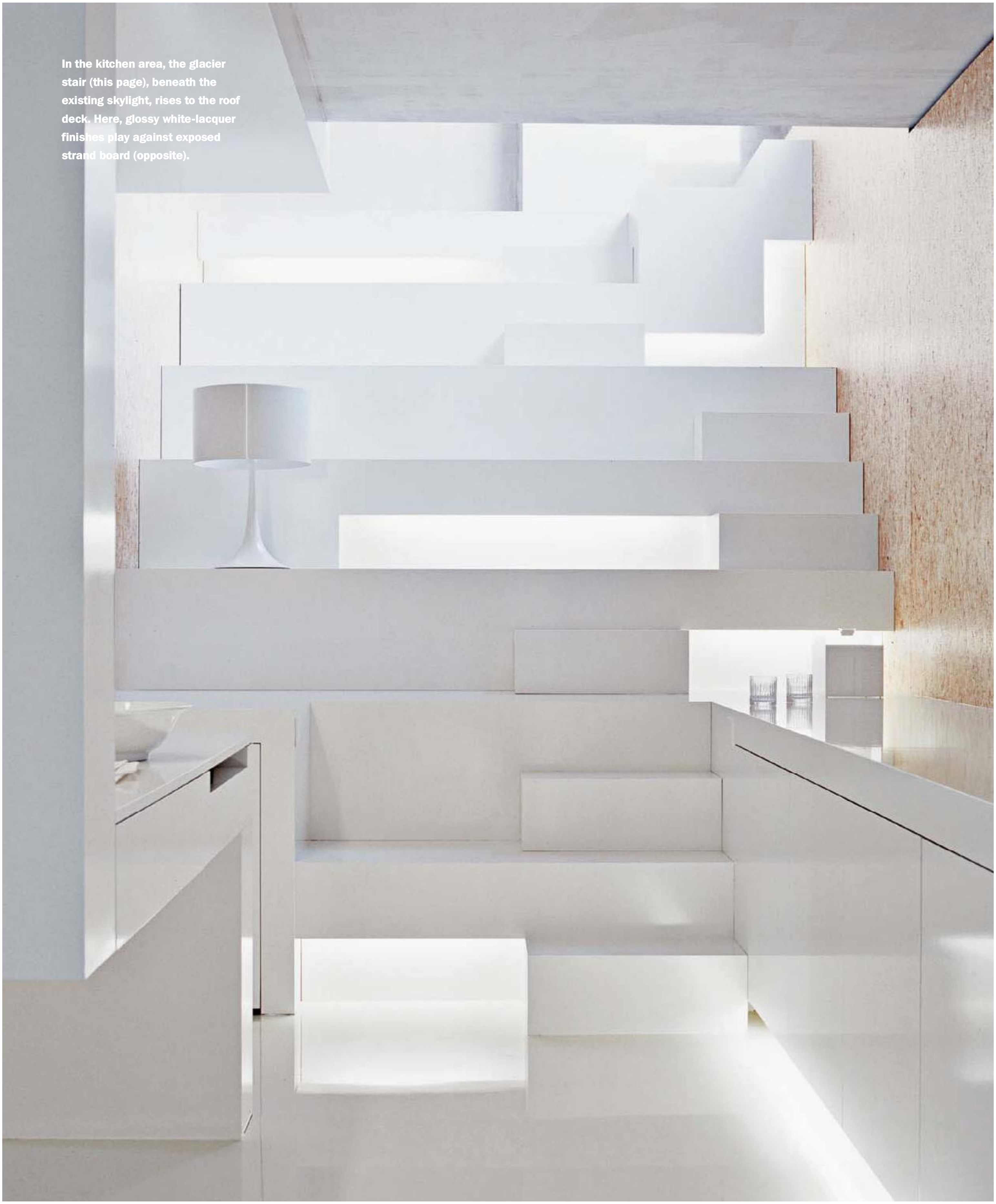
In some of his earlier projects, Kuma had exhibited an ironic approach to materials, making plates of stone float in the air at the Lotus House, for example. But at the Fujiya *onsen*, he plays it straight, while creating frankly modern spaces. "In other projects, I combined old and new in a mostly metaphorical way," says the architect. "Here, I combined them more literally." The result is a building that may be less overtly risk-taking but more comfortable in its (reinterpreted) skin. ■

For sources, go to page 142 or architecturalrecord.com/projects/.

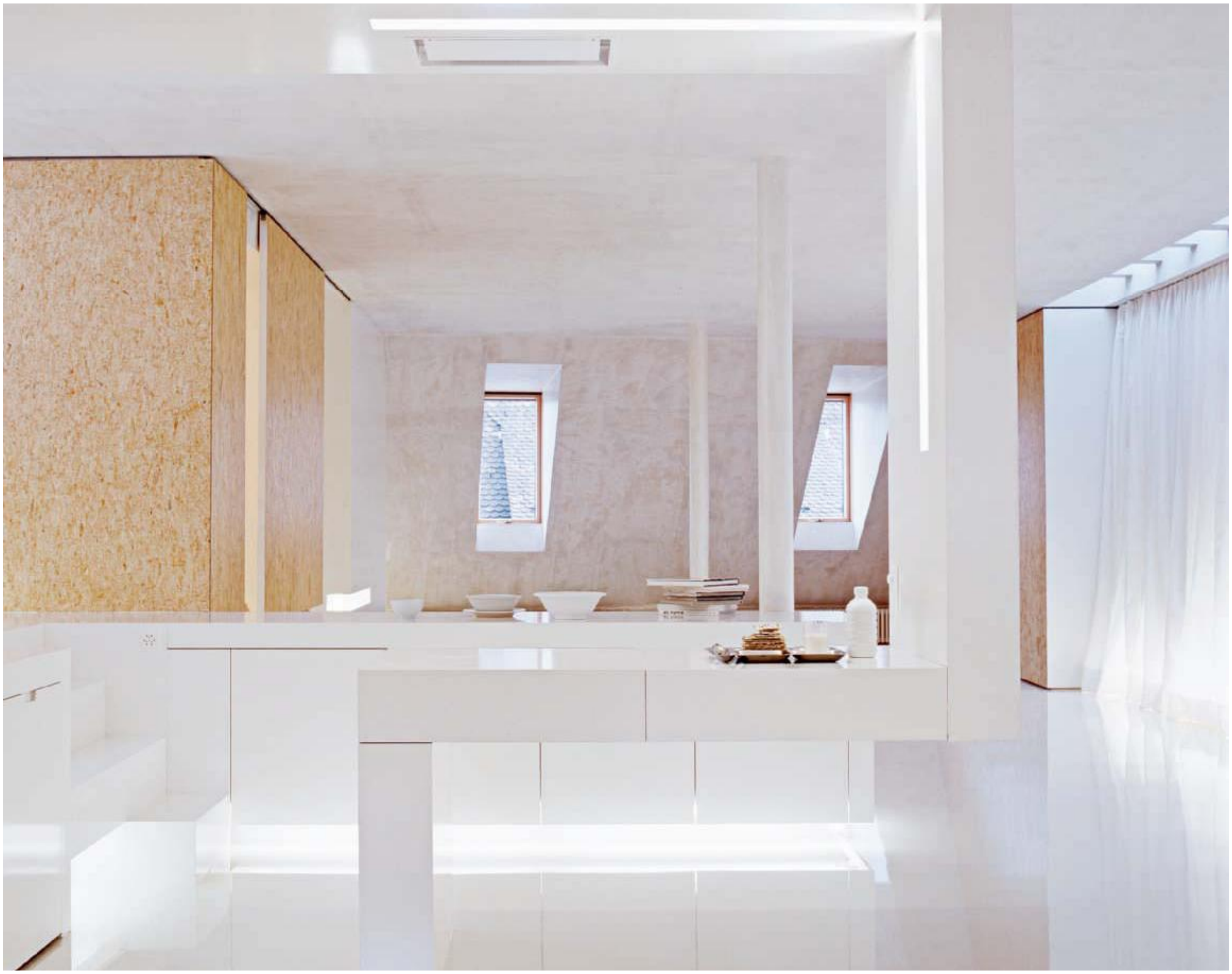
PHOTOGRAPHY: © JIMMY COHRSSEN (THIS PAGE)



Kuma used daylight from above and halogen lights in a cove at the floor's edges to soften the mood and accent the materials in a communal bath.



In the kitchen area, the glacier stair (this page), beneath the existing skylight, rises to the roof deck. Here, glossy white-lacquer finishes play against exposed strand board (opposite).



In Lucerne, Switzerland, Gus **Wustemann** forms the crystalline **GLACIER LOFT**, turning a dark attic luminous

By Diana Lind

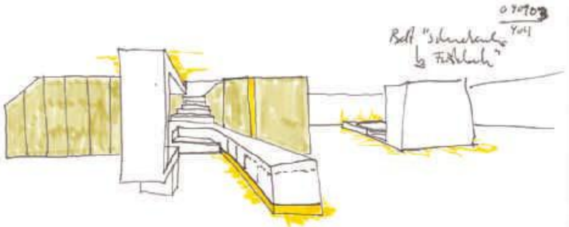
It's every architect's fantasy—getting carte blanche from a client. "It was excellent, and the first time for me," Gus Wustemann says with evident glee, recalling how a couple contacted him after seeing his work in magazines, and offered complete creative license. The couple owned a 2,000-square-foot attic apartment in the historic quarter of Lucerne, Switzerland, and wanted it not just renovated, but transformed.

"The place was a black box—practically no context whatsoever," Wustemann says of the loft's original condition. The architect, who has offices in Zurich and Barcelona, specializes in sleek, airy residential spaces. The dark garret in Lucerne was just calling for his brand of intervention.

The clients, a food business manager and his wife, delivered a

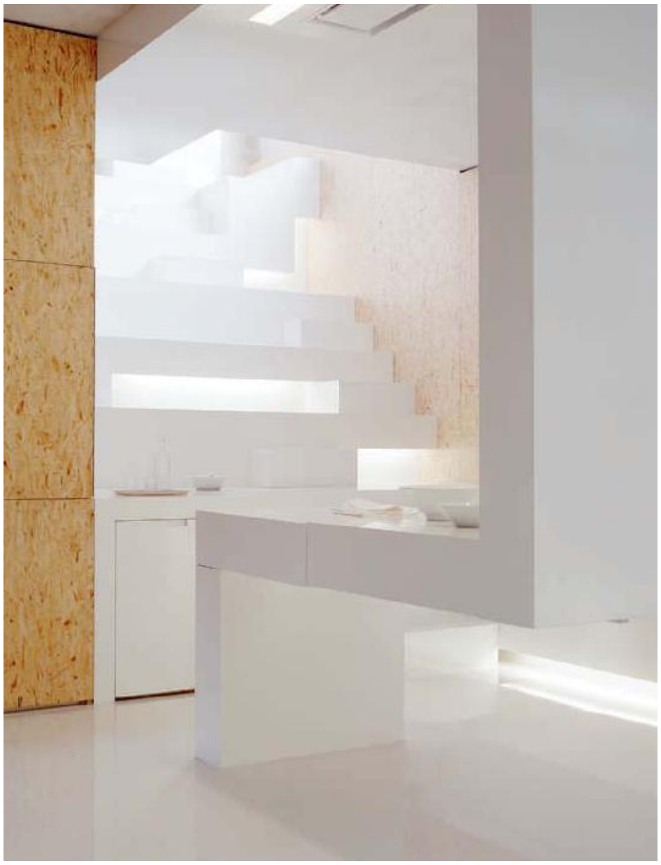
Diana Lind is author of the forthcoming book Brooklyn Modern *(Rizzoli 2008).*

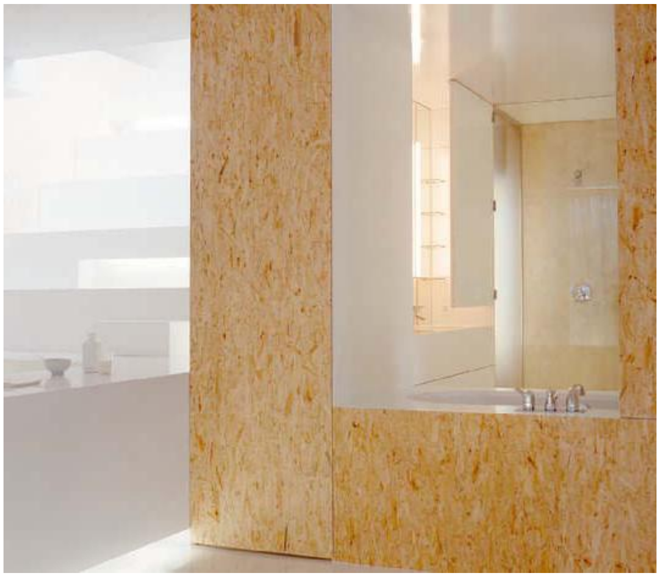
Project: *Glacier Loft, Lucerne, Switzerland*
Architect: *Gus Wustemann with Pinar Gönül*



PHOTOGRAPHY: © BRUNO HELBLING

All the kitchen appliances lie hidden behind sleekly hinged panels (below and opposite, bottom left). The bathroom "box" can be closed or partially opened (bottom.)





brief of only two points: a light-filled loft and a better way to access their roof terrace (to replace the extremely ordinary existing stair). With these parameters set, they let Wustemann get to work. No histrionics, no difficult contractors, no budget-related delays. Half a year and $190,000 later, the apartment was move-in ready.

Like this fairy-tale process, the resulting pure-white loft appears more ethereal than real. But that's just the idea—the beauty distracts from the architect's smart, hardworking solutions to the space's shortcomings.

Wustemann—a Swiss native and longtime mountaineer—took inspiration from the glacier as a metaphor for the stair to the terrace and the loft's entire "landscape." The motif would connect not only the apartment to its roof deck, but also this most Modern interior to the nearby alpine scenery. "Getting to the light, and to the terrace, is a little like getting to the summit," he explains, envisioning the loft's components as part of the ascent through a glacial landscape.

To set the tone for that narrative, Wustemann coated the floors in white polyurethane, creating a "frozen lake" beneath his glacier. Offsetting the coolness of the floors, warm, honey-brown, unvarnished oriented strand board (OSB) forms the bathroom and service cores. For the built-in furniture and cabinetry, the architect chose the same inexpensive material, which offers a desirable sustainability through its reconstituted content. Elsewhere in the loft, OSB reappears in two other finishes—slick, lacquered white for the glacier stair, kitchen, and bedroom; and whitewashed for the existing structural walls—calling to mind the transformative states of such natural substances as stone eroding into sand or water chilling into ice.

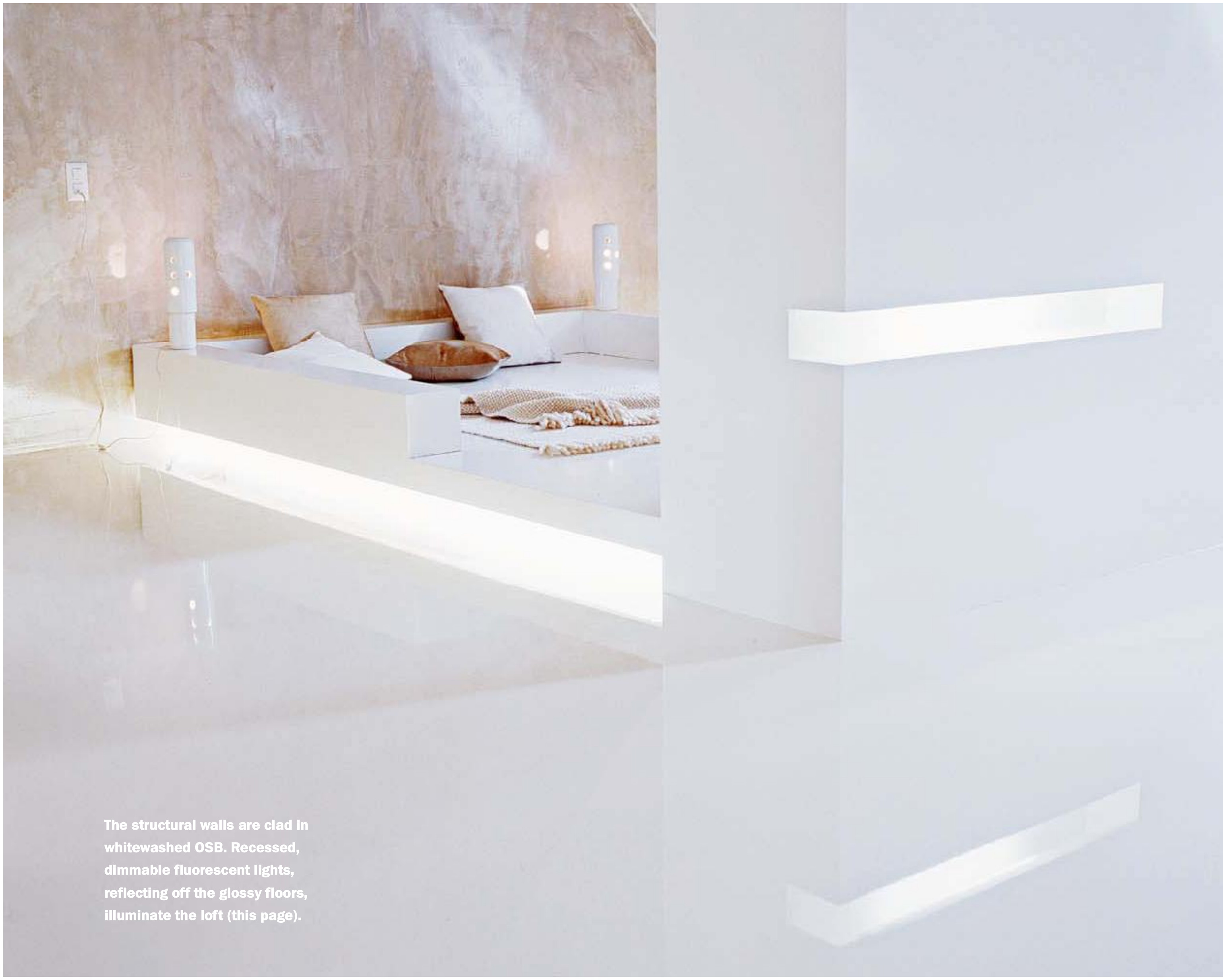
Most of the loft, apart from the cores, remains open. Though the place, roughly trapezoidal in plan, appears free-form, the glacier stair is its centerpiece, immediately visible on entry. Here, Wustemann created a lacquered sculptural wall that rises with a meandering path of asymmetrically placed steps. Niches articulate the glacial cascade, casting an animated play of shadows while offering nooks for object display or storage. Also on the stair, friends can gather and chat or watch dinner preparation.

Much like ice floes on a frozen lake, the kitchen and bathroom are seemingly stationary objects that actually move. The bathroom, at first glance a simple OSB box, can be closed for privacy, or partially opened, keeping the room's lower registers discretely hidden. The kitchen's almost seamless white surfaces can be unfastened, its hinged panels revealing a refrigerator, stove, oven, and sink. And sheer white curtains—one covering a blank wall as if concealing yet another section of the apartment, the other closing off the bedroom—sway in the breeze. The movement keeps the loft's sculptural sections in dialogue, even as the conventions of function remain purposefully obscured. "For many people, it would be a new kind of living," says Wustemann, "because there are so few recognizable architectural features—the bathroom, the kitchen, the usual boring stuff."

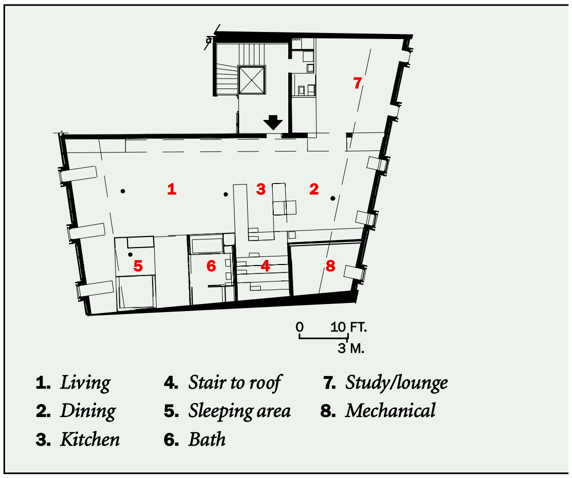
Enhancing the loft's enigmatic qualities is the near absence of direct illumination. Slits in the lacquered walls glow with hidden, dimmable fluorescents. More recessed fluorescents lie in the stair nooks, beneath the kitchen cabinets, and under a living-area seating platform, providing light that filters through the space much as rays pass through a hunk of icy crystals, appearing bright white in some spots, but dark, almost blue, in others. As Wustemann notes, "The sculptures become alive through the light, taking the pressure off the call for a big window." Without adding to the existing 10 small windows and single skylight, he achieved this remarkable luminosity.

After a leisurely glide through the loft, the path up the glacier wall offers yet one more delightful delay to the summit. There, the terrace awaits with a panorama of old Lucerne and the Swiss Alps beyond—a stunning view, well worth the journey. ■

For sources, go to page 142 or architecturalrecord.com/projects/.



The structural walls are clad in whitewashed OSB. Recessed, dimmable fluorescent lights, reflecting off the glossy floors, illuminate the loft (this page).


1
2
3
4
5
6
7
8
0
10 FT.
3 M.
1. Living
2. Dining
3. Kitchen
4. Stair to roof
5. Sleeping area
6. Bath
7. Study/lounge
8. Mechanical

By Joann Gonchar, AIA

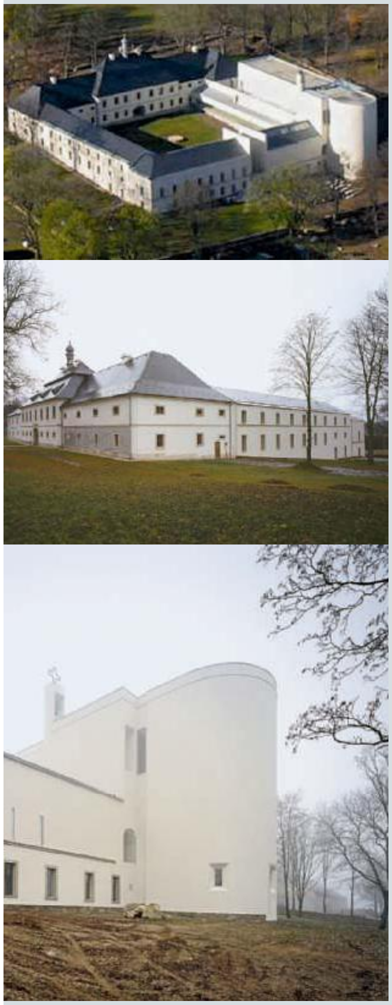
On the surface at least, it is hard to imagine a more incongruous combination of architect and client: the London-based John Pawson, known for his starkly Minimal and elegant temples to material culture, and a community of Cistercian monks whose lives revolve around prayer, study, and physical labor. But just such an odd couple has created a luminous monastery in a remote corner of Bohemia, the first built in the Czech Republic since the 1989 Velvet Revolution ended four decades of religious suppression.

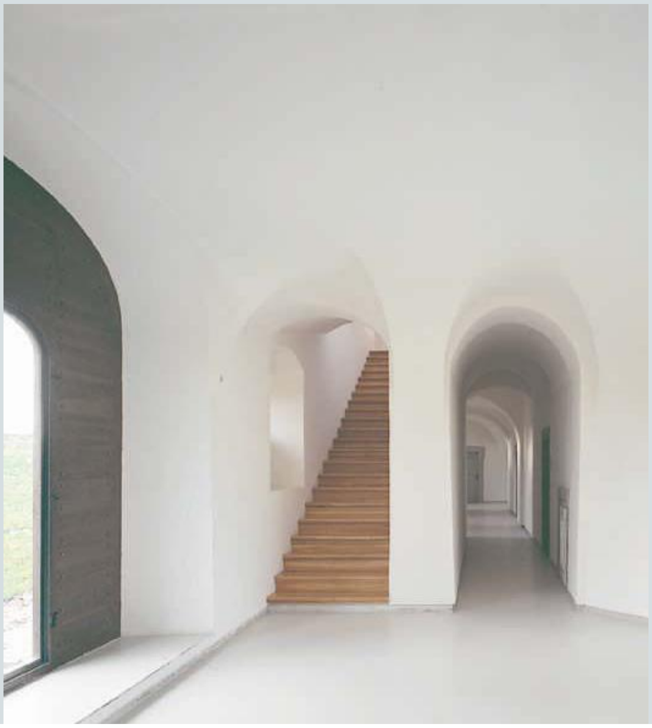
The monastery, Our Lady of Novy Dvur, was founded by a group of mostly Czech Cistercians relocating from Sept-Fons Abbey in central France. Pawson won the commission in 1999 after Sept-Fons's abbot saw photographs of the architect's New York City Calvin Klein boutique. Though the store's program and consumerist mission could not differ more from a monastery's, the abbot saw in its Minimalism a spirit akin to traditional Cistercian buildings. As Father M. Samuel, superior of Novy Dvur recalls, "His work seemed well adapted to a monastic architecture."

Novy Dvur sits on a wooded, 100-acre site about 30 miles northwest of Pilsen. Here, on a slope, stood an abandoned 18th-century manor house that Pawson, with the Czech firm Atelier Soukup, restored and incorporated into the design. In place of several dilapidated agriculture buildings surrounding a court shared by the house, the team created three new wings that recall the character of the original structures.

The resulting 60,000-square-foot complex includes a church, dormitory, refectory, infirmary, and manuscript room—everything this religious community needs for a self-sufficient, structured routine that begins at 3:15 A.M. and includes prayer seven times a day. Now 20 monks live at Novy Dvur, but it is designed for an eventual group of about three dozen brothers. The architecture serving their ascetic life is accordingly spare, characterized

Project: *Our Lady of Novy Dvur, Bohemia, Czech Republic*
Architect: *John Pawson—Vishwa Kaushal, Pierre Saalburg, Stéphane Orsolini, Ségolene Getti, Stefan Dold, Shingo Ozawa, project team*
Executive architect: *Atelier Soukup*
Collaborating architect: *Denton Corker Marshall*
Contractor: *Starkon CZ a.s.*

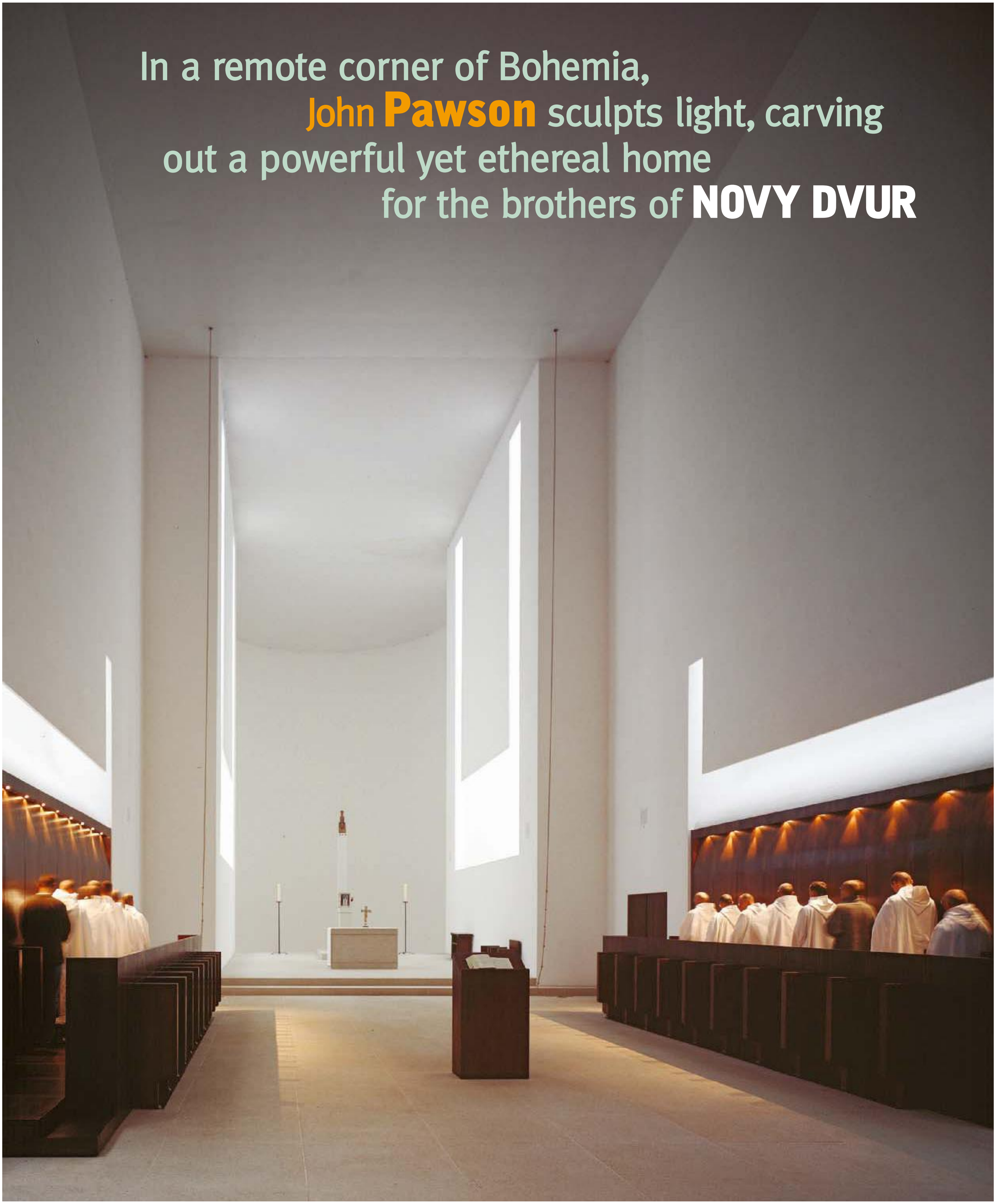


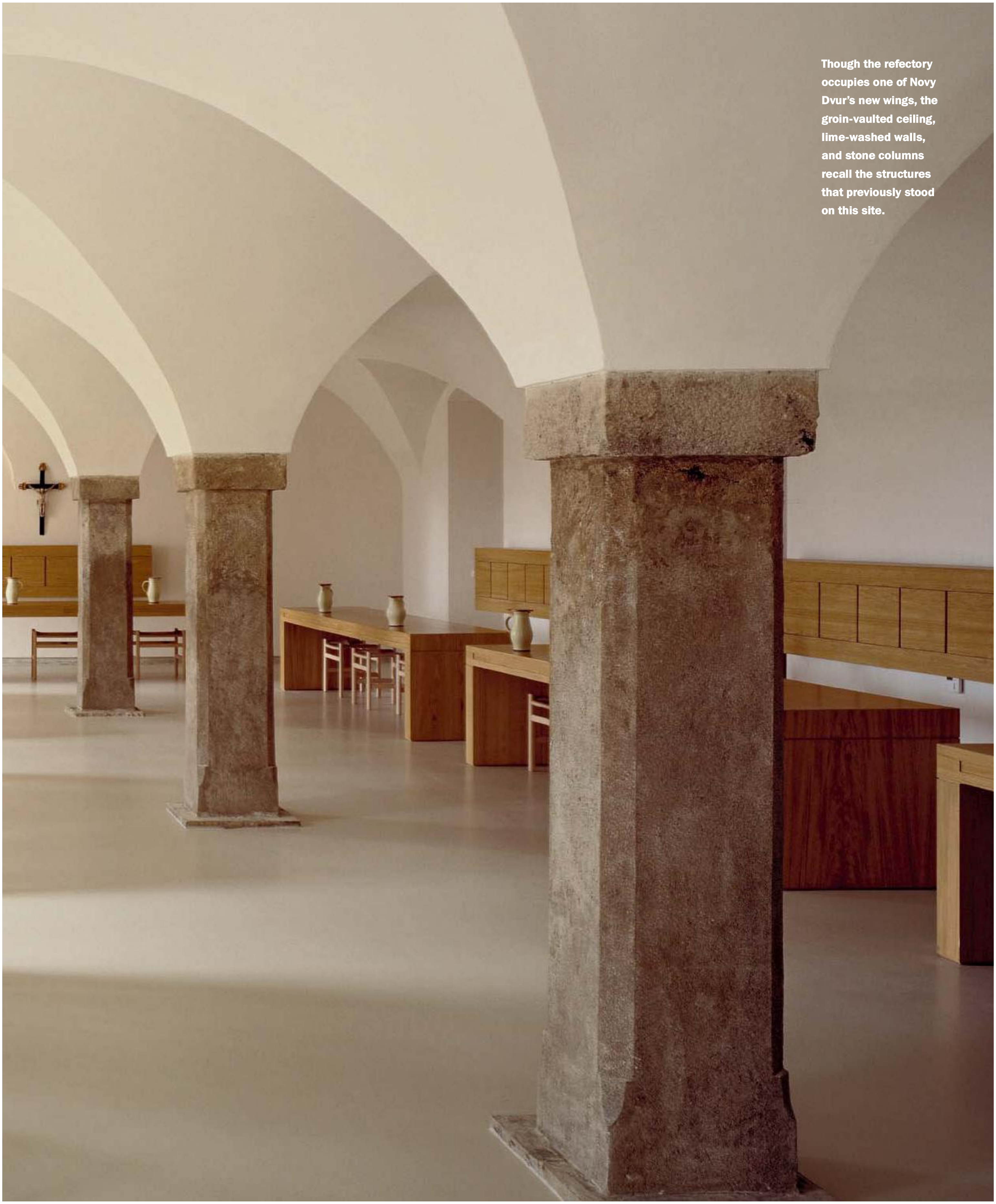


The monastery design incorporates a restored Baroque manor house (near left) and three new wings (far left three) surrounding a grassy court. Daylight enters the church (opposite) through hidden skylights and is channeled through openings in the nave walls' inner shell.

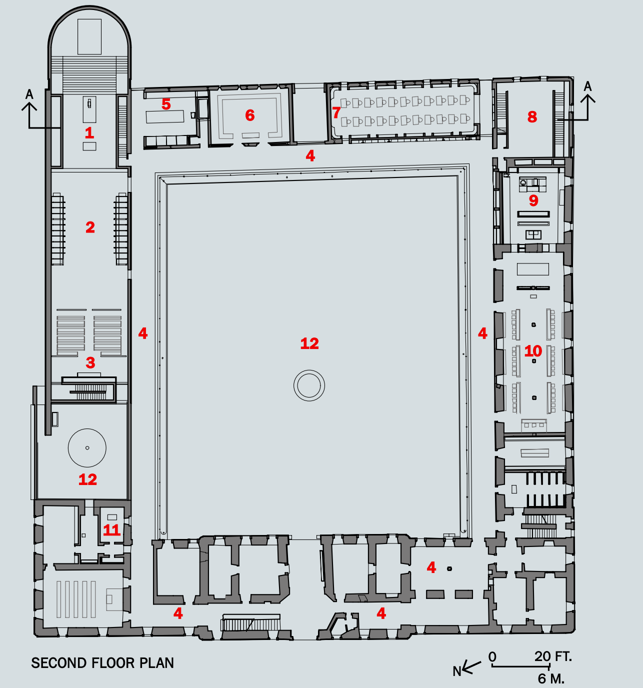
PHOTOGRAPHY: © HISAO SUZUKI, EXCEPT COURTESY JOHN PAWSON (FAR LEFT BOTTOM)

In a remote corner of Bohemia,
John **Pawson** sculpts light, carving
out a powerful yet ethereal home
for the brothers of **NOVY DVUR**

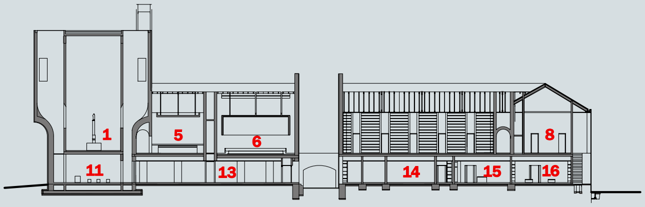




Though the refectory occupies one of Novy Dvur's new wings, the groin-vaulted ceiling, lime-washed walls, and stone columns recall the structures that previously stood on this site.



SECOND FLOOR PLAN



SECTION A-A

1. *Presbytery*
2. *Monks' choir*
3. *Lay area*
4. *Cloister*
5. *Sacristy*
6. *Chapter house*
7. *Scriptorium*
8. *Cowl room*
9. *Kitchen*
10. *Refectory*
11. *Chapel*
12. *Courtyard*
13. *Infirmary*
14. *Laundry*
15. *Cloakroom*
16. *Boot room*

by smooth, white plaster; concrete; glass; wood; and stone. As Pawson puts it, "An absence of visual and functional distraction supports the goal of monastic life: concentration on God."

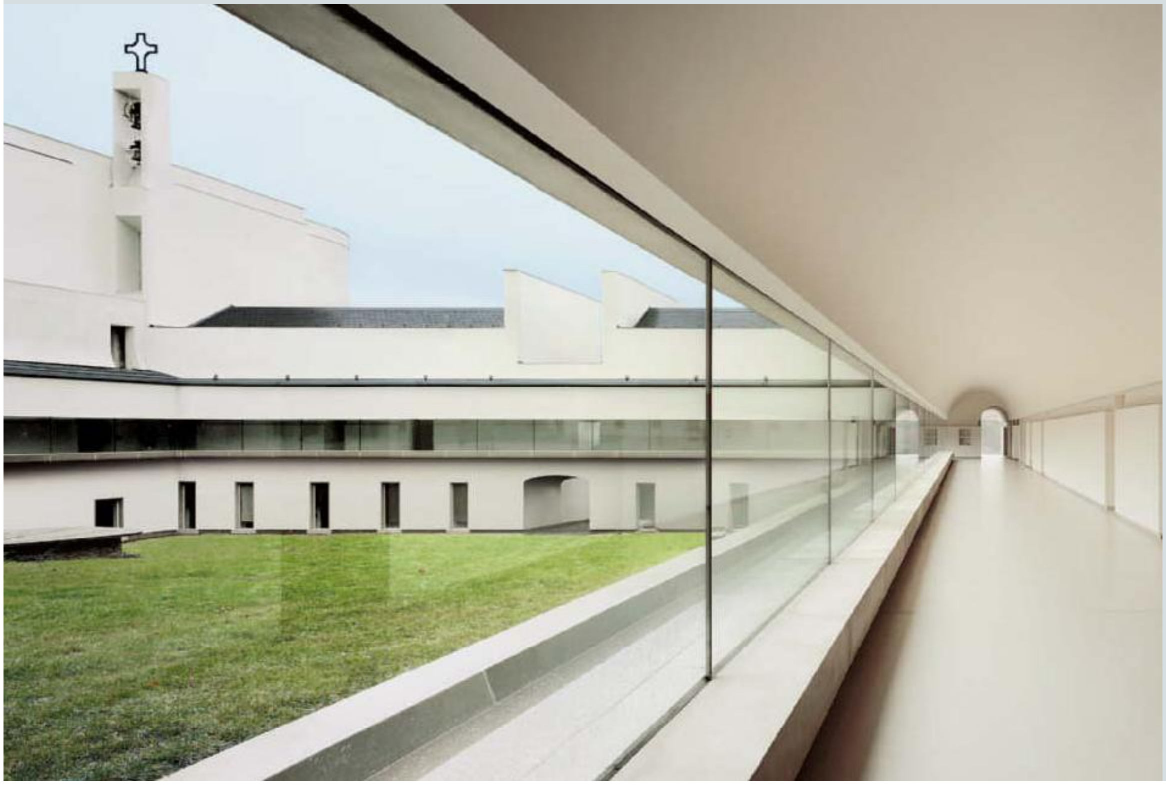
Reducing the architecture to essentials, he has seemingly questioned the necessity of every element, even structure. In the glass-enclosed cloister, a barrel-vaulted ceiling cantilevers toward the grassy inner court. With no columns at the perimeter, an interior bench becomes a rainwater canal on the exterior, opening the walkway visually to the court—a modern interpretation of the traditionally more contained (or "cloistered") space.

The church, on the north side of the quadrangle, most clearly a new insertion, rises with an almost windowless skin and sculptural apse, its flat roof contrasting sharply with the other three wings' sloped slate roofs and facades articulated by punched openings and stone string courses. Inside, the sanctuary is all volume and light. Conveying a sense of mystery, hidden skylights channel reflected and diffuse daylight through openings in a secondary set of nave walls, bathing the elongated and tall space in an ethereal glow.

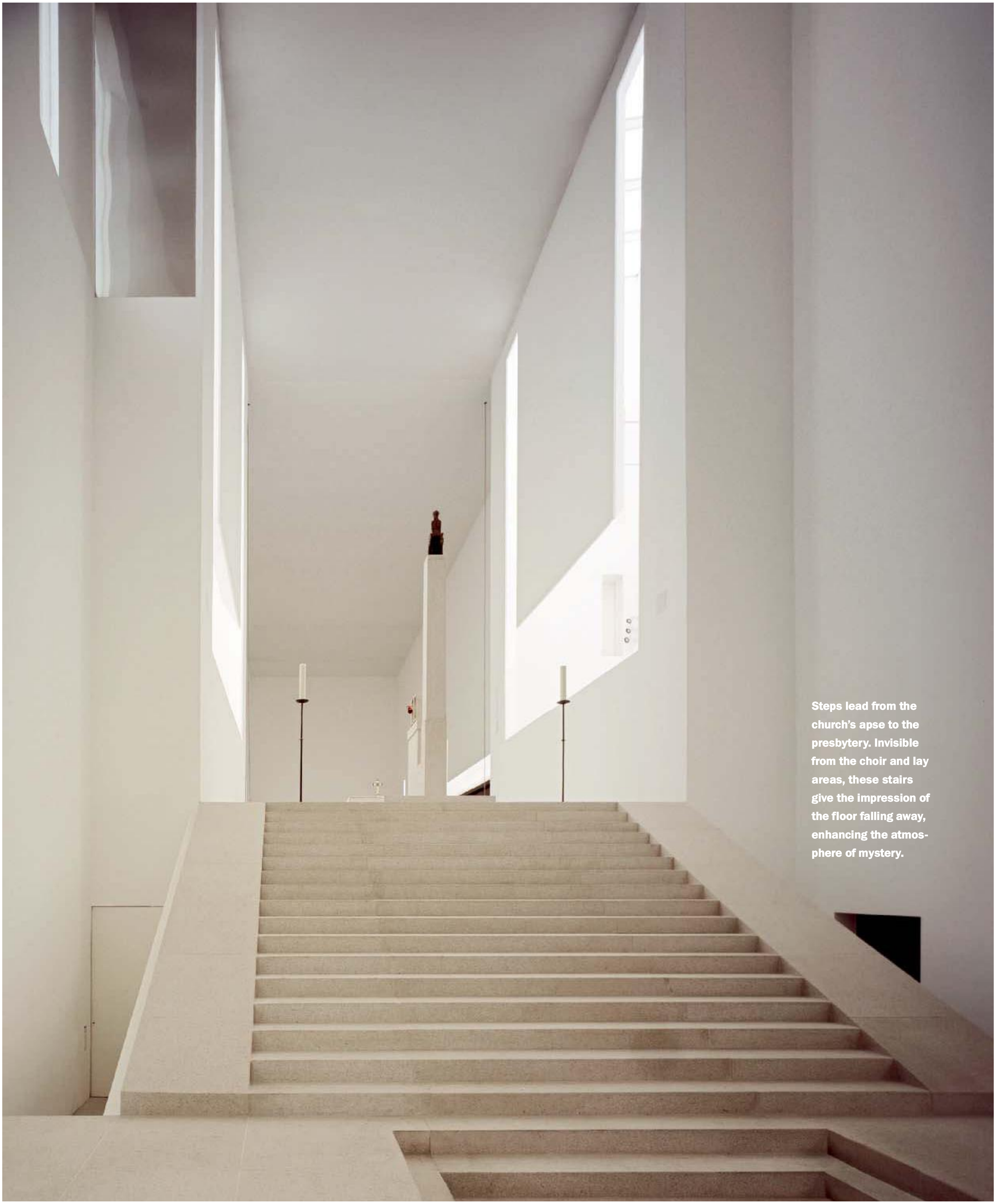
Pawson says the manipulation of daylight, handling of proportion, and simplicity of detailing, along with the programmatic components, were informed by a template created in the 12th century by Saint Bernard outlining the essentials of a Cistercian monastery. But the building is nevertheless, as he says, "of this community and of this time."

And that is exactly the kind of monastery the client hoped for. "We sought a building adapted to the monastic life we live today" rather than one founded on "archaic ideas," says Father Samuel. Founding Novy Dvur was "not a matter of archaeology," but a "matter of concrete life." ■

For sources, go to page 142 or architecturalrecord.com/projects/.

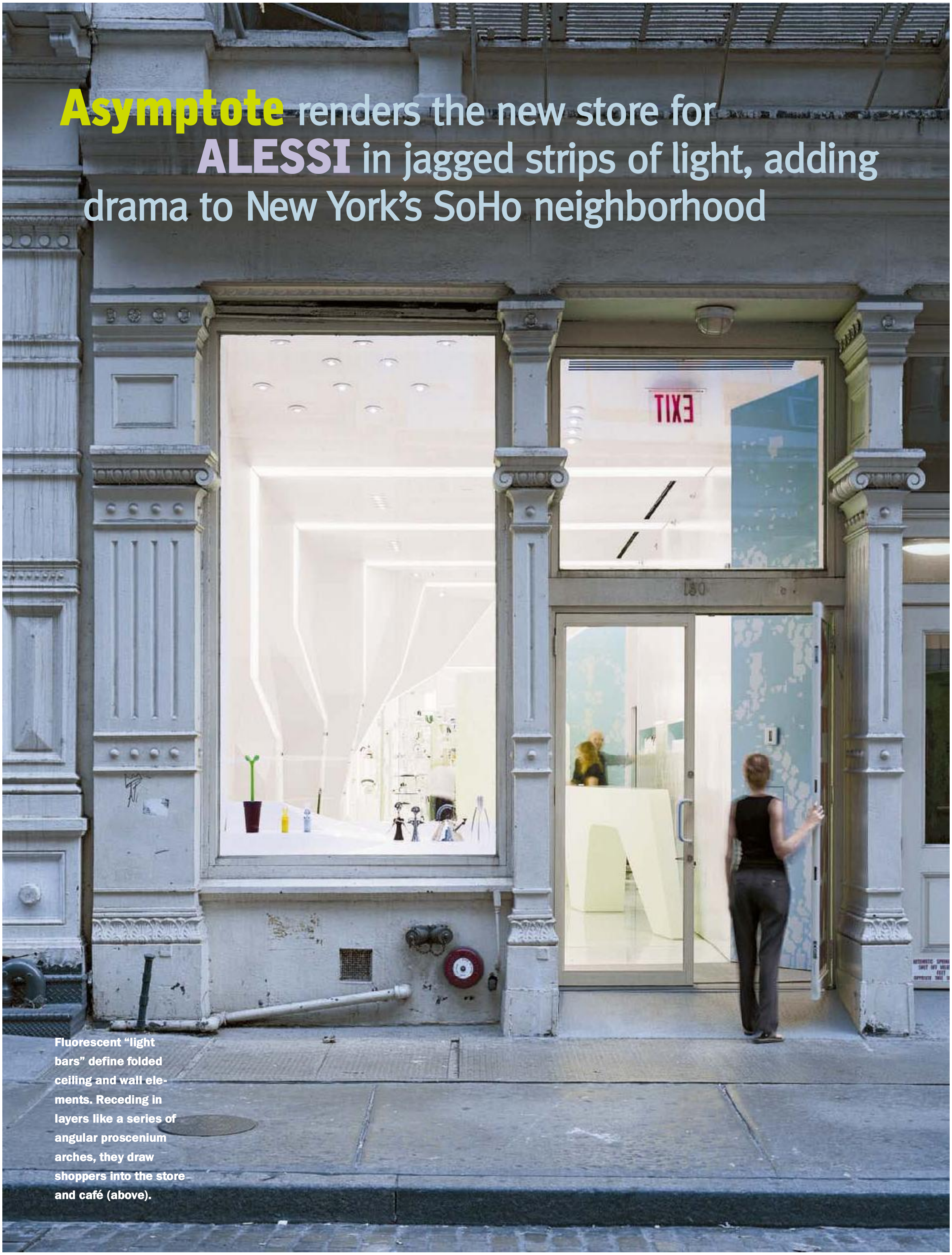


The ceiling of Novy Dvur's barrel-vaulted and glazed cloister cantilevers toward the grassy inner court, appearing to float over the slightly reflective resin-coated concrete floor. A continuous bench at the cloister's perimeter transforms into a rainwater trough on the exterior.

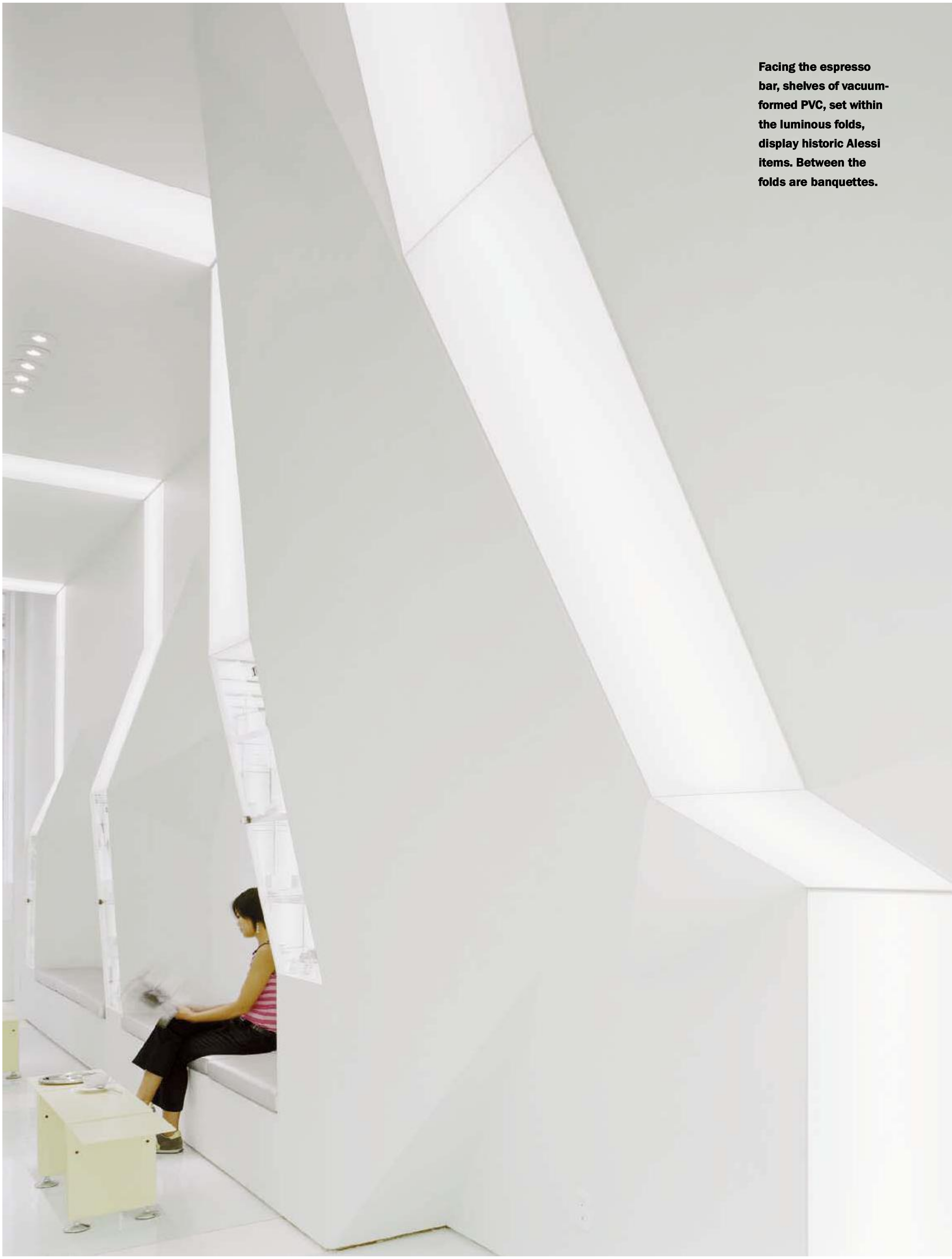


Steps lead from the church's apse to the presbytery. Invisible from the choir and lay areas, these stairs give the impression of the floor falling away, enhancing the atmosphere of mystery.

Asymptote renders the new store for **ALESSI** in jagged strips of light, adding drama to New York's SoHo neighborhood



Fluorescent "light bars" define folded ceiling and wall elements. Receding in layers like a series of angular proscenium arches, they draw shoppers into the store and café (above).



Facing the espresso bar, shelves of vacuum-formed PVC, set within the luminous folds, display historic Alessi items. Between the folds are banquettes.

PHOTOGRAPHY: © ELIZABETH FELICELLA

By Suzanne Stephens

For its flagship in the SoHo neighborhood of New York City, Alessi, the ultra-design-conscious Italian manufacturer of household objects, found a hot location—on Greene Street, where a dense cluster of design stores guarantees high-volume, well-heeled pedestrian traffic. But the narrow, 13-foot-wide storefront in a renovated loft building lacked dramatic presence. Although the long, 1,800-square-foot interior widens to 21 feet toward the rear, the place posed yet another problem, namely "too much space for this kind of retail operation," as Jan Vingerhoets, Alessi USA's executive vice president, puts it. But he and Alberto Alessi, the company's joint general manager, hit on a solution: an espresso bar inside the shop. The concession, serving on Alessi tableware, would draw potential customers, while demonstrating that these fanciful objects were not just for collecting.

For both the interior and graphic design, Alessi hired Asymptote Architecture, a New York firm, whose principals, Hani Rashid and Lise Anne Couture, have forged an avant-garde reputation based on digitally generated forms. Alessi's mandate was to update the store image from its 1980s Postmodern heyday, when it purveyed playful polychromed objects by Michael Graves, Aldo Rossi, Hans Hollein, and others in similarly colorful and whimsical shops by Atelier Mendini. While those stores functioned well in presenting Alessi's evolving line by later generations of vanguard architects and designers, including Asymptote, Frank Gehry, Zaha Hadid, and Toyo Ito, "It was time to be different," says Vingerhoets, "especially in New York."

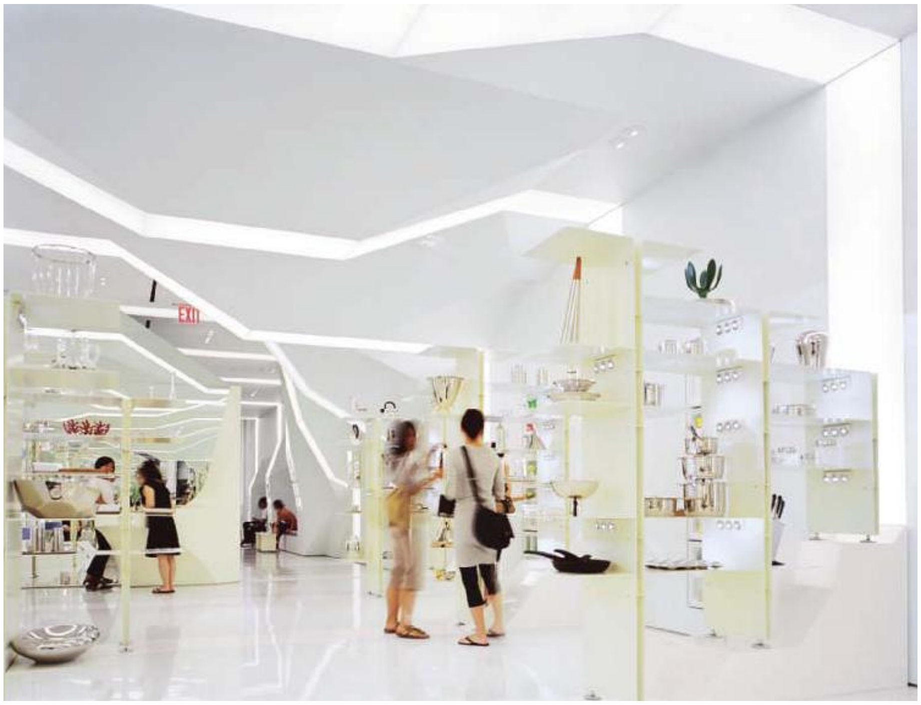
Asymptote's scheme draws on a pale-blue and cloud-white palette (inspired, says Rashid, by mist on Lago Orta, Italy, near the company's headquarters) to endow the cavernous space with an ethereal aura. Principles of stagecraft pull visitors in, beyond the espresso bar, to the objects for sale. With a series of folded walls and ceilings, made of medium-density fiberboard and spaced algorithmically, the architects created successive layers of angular proscenium arches in forced perspective. Visible from the street, the jagged, receding planes are dramatized by 2-foot-wide light bars that edge the folds. These troughs of fluorescent fixtures beneath stretched, white copolymer membranes help define bays for espresso sipping or object display. At the back of the store is the true mise-en-scène. Here, an off-white, bent-steel shelving system, illuminated by hidden LEDs, juts out from the sidewalls, following the pattern of the light bars—presenting Alessi's gleaming artifacts as if on miniscule stages.

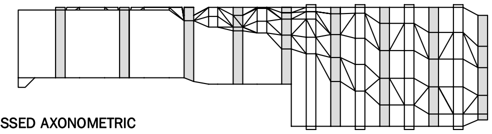
In the year since its opening, "Asymptote's shop has proved number one in sales worldwide out of our 18 stores," Vingerhoets proclaims. While the architects are now hard at work on a master plan for central Prague, a 50-story residential tower in Abu Dhabi, plus a mid-rise luxury condominium in Manhattan's West Village, Rashid doesn't discount small-scale shop design. "Each store," he says, "is an architectural experiment that adds something to the city." ■

Project: *Alessi Flagship Store, New York City*
Architect: *Asymptote Architecture—Hani Rashid and Lise Anne Couture, principals; Jill Leckner, Stella Lee, David Lessard, project architects*
Consultants: *Robert Silman Associates (structural); Tillotson Design Associates (lighting)*

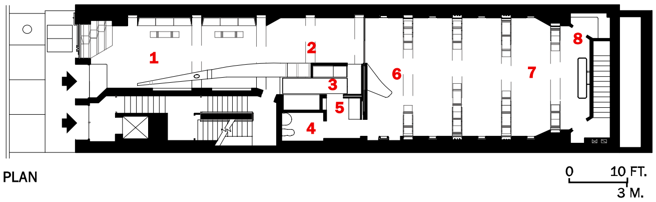
For sources, go to page 142 or architecturalrecord.com/projects/.

At the rear of the store, off-white, bent-metal shelving, by Asymptote and Visplay, continue in three dimensions the graphic pattern of the light bars.



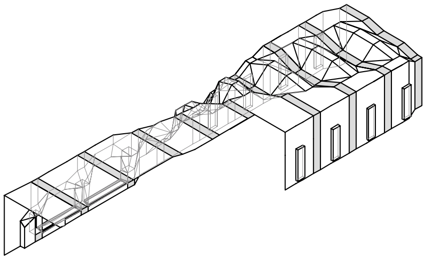


COMPRESSED AXONOMETRIC

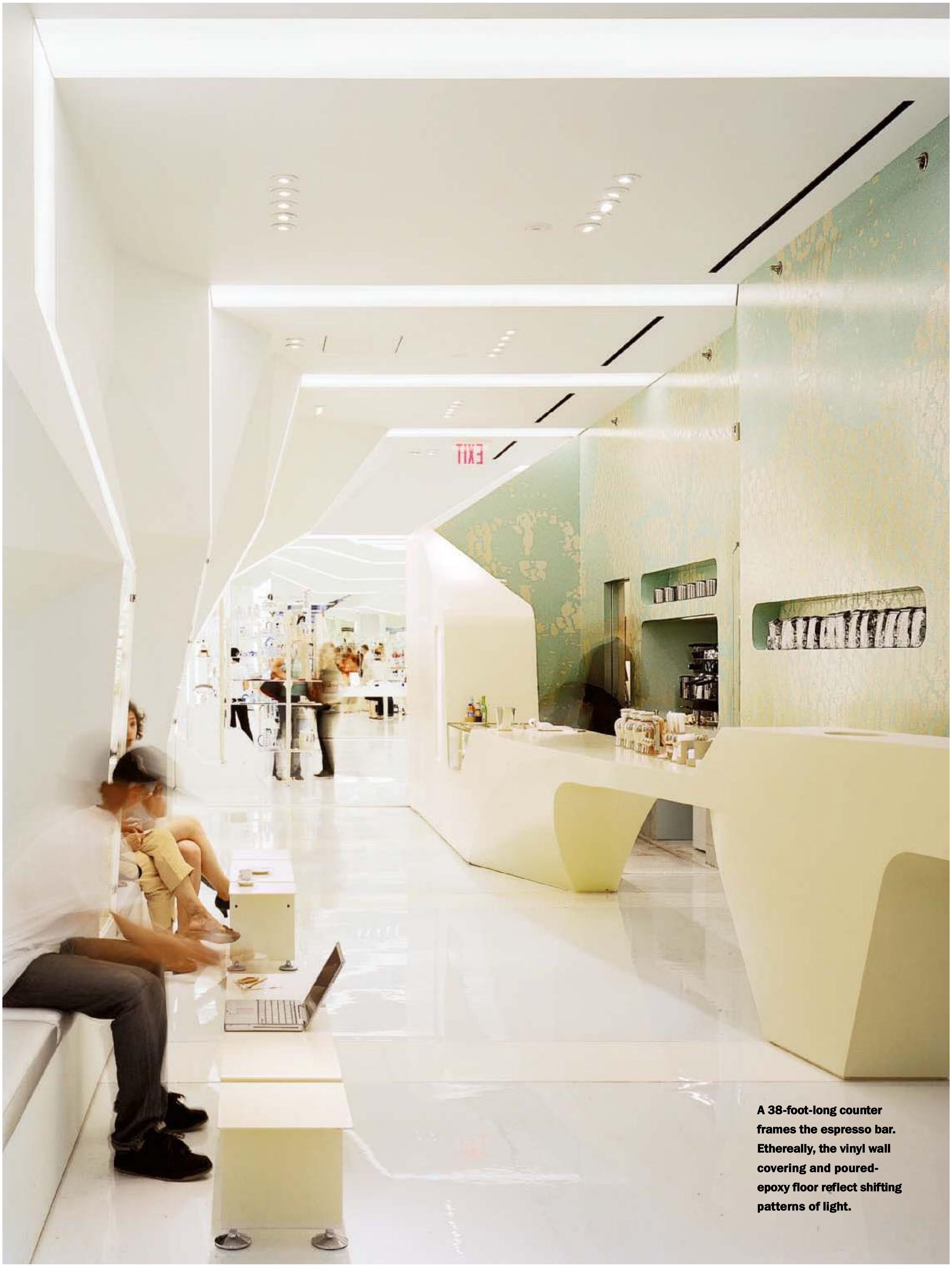


PLAN

1. *Entry seating*
2. *Espresso bar*
3. *Café register*
4. *Bathroom*
5. *Washing area*
6. *Shop register*
7. *Sales area*
8. *Gift wrap/storage*



COMPOSITE AXONOMETRIC



A 38-foot-long counter frames the espresso bar. Ethereally, the vinyl wall covering and poured-epoxy floor reflect shifting patterns of light.

SOURCES/RESOURCES PROJECTS

JIN'S GLOBAL STANDARD

Chiba, Japan

(page 112)

Sources

Paint: *Nippon Paint (ceiling, wall); Daido Corporation (floor)*

Lighting: *ITL Company (interior ambient)*

Interior finishes: *Mihasi Company (moulding)*

HONDA ADVANCED DESIGN CENTER

Pasadena, California

(page 118)

Sources

Furnishing: *Vitra*

Fabrication: *Aircraft Windshield (plastic thermoforming); Aria Advanced Composites Manufacturing (mold milling); Metalmorphosis (metal pole fabrication); FELT Studio (felt panel fabrication)*

Doors: *Pacific National Group (glass doors)*

GINZAN ONSEN FUJIYA

Obanazawa, Japan

(page 122)

Sources

Roofing: *Yodoko (galvanized steel)*

Hardware: *Miwa Lock (locksets); Atom (hinges)*

Interior finishes: *LGS (suspension grid)*

Furnishing: *Tendo Mokko (chairs, tables)*

Conveyance: *Mitsubishi*

Plumbing: *Imax-Satis (toilets); Fantini (showers); Agape, Toto (sinks); Cera, Advan (faucets)*

Stained glass: *Peintre Verrier (Masato Shida)*

Sumushiko: *Hideo Nakata*

GLACIER LOFT

Lucerne, Switzerland

(page 128)

Sources

Interior: *LuternauerInnenausbau GmbH (sliding doors, demountable partitions, custom woodwork)*

Interior finishes: *Schlagenhauf (paints and stains, wall coverings)*

Flooring: *Walo Bertschinger AG (resilient flooring)*

NOVY DVUR

Bohemia, Czech Republic

(page 132)

Sources

Organ design: *Kánsky-Brachtl*

Flooring: *Remmers (resin)*

Seating: *Betsinor (precast bench)*

Taps: *Dornbracht*

Door handles: *FSB*

Skylight: *Schuko*

Roofing: *Sarnafil; Rheizink (zink)*

ALESSI FLAGSHIP STORE

New York City

(page 138)

Sources

Glazing: *Empire Glass*

Hardware: *FSB (lockset)*

Interior finishes: *NJS woodwork (cabinetwork); Abet Laminati (laminate); Barrisol (special surfacing)*

Lighting: *Bartco (ambient); Con-Tech (downlighting); Alko (task lighting); Lutron (controls)*

For more information on these projects, go to Projects at **architecturalrecord.com**.

PHOTOGRAPHY (TOP TO BOTTOM, LEFT TO RIGHT): © DAICI ANO; FOTOWORKS/BENNY CHAN; DAICI ANO; BRUNO HELBLING; HISAO SUZUKI; ELIZABETH FELICELLA

Introducing

Trelisio™

WOVEN WIRE

Trelisio for ceilings and walls. Shown fully integrated and installed on our custom Ceilencio® grid.

Visit "What's New" at decoustics.com

1-800-387-3809

CIRCLE 66 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

decoustics

A CertainTeed Ceilings Company

PAC-CLAD
Petersen Aluminum

CONTINUING EDUCATION AIA

NEW! AIA/CES ON METAL ROOFING

Earn one AIA/CES Learning Unit plus one hour of health safety welfare credit by reading our new article on metal roofing solutions. The new article discusses the complexities of metal roof systems, substrates and finishes.

Visit www.pac-clad.com and click on AIA/CES to access the program.

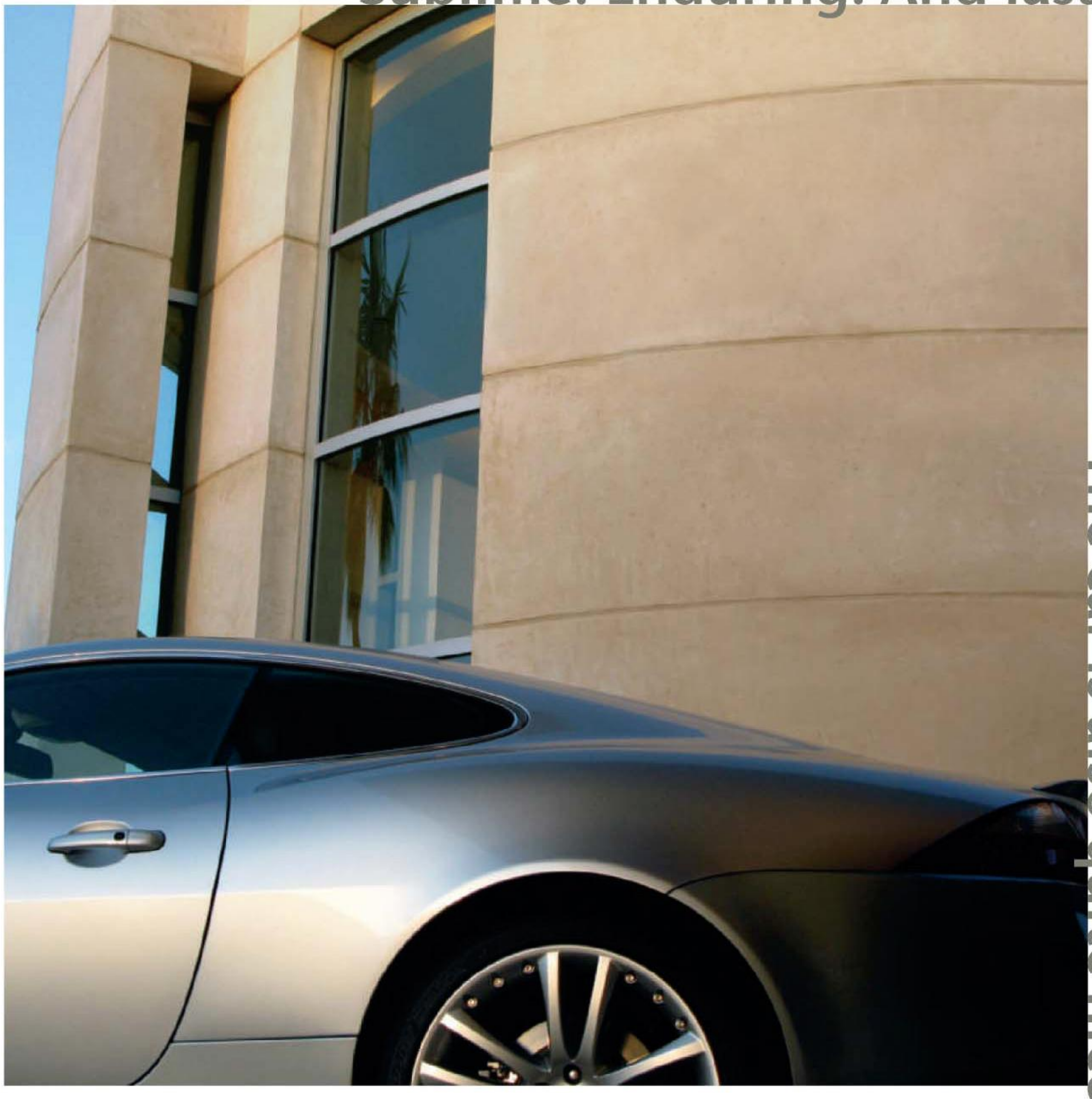
Petersen Aluminum

1005 Tonne Road • Elk Grove Village, IL 60007
1-800-PAC-CLAD or 1-847-228-7150
Fax: 1-800-722-7150 or 1-847-956-7968
http://www.pac-clad.com

Other Plant Locations:
Annapolis Junction, MD: 1-800-344-1400
Tyler, TX: 1-800-441-8661
Kennesaw, GA: 1-800-272-4482

CIRCLE 113 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Sublime. Enduring. And fast.



The car is also quite nice.

ArcusStone® decorative limestone coating has much in common with a Jaguar®. It's easy on the eyes. Comes in a variety of colors and finishes. And handles curves with aplomb. (Try that with quarried stone.)

And like a Jag, there's nothing faux or imitation about ArcusStone. Take the ArcusStonecoat™ system you see here. It's real limestone that's reconstituted with our proprietary formula. So it has the look, the feel – and with a compressive strength of 5,805 psi – a level of strength and endurance that's ahead of just about anything out there.

And, because the ArcusStone system was specified for Jaguar dealerships, you can see it alongside purring Jaguars across the country. You'll also find it in the de Young Museum in San Francisco. Or Atlantis in the Bahamas.

For more about ArcusStone products and their many uses, visit www.arcusstone.com.

The Art of Limestone.™

ArcusStone®

CIRCLE 67 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

THE AMERICAN
INSTITUTE
OF ARCHITECTS

AIA Career Center

Building up Grow your business.

With nearly 4,000 design-related résumés, AIA Career Center is the best source for highly qualified candidates. Post jobs instantly, search résumés, and manage candidates.

Take your pick. Go to *www.aia.org/careercenter*.

TOMMY HILFIGER
KENNETH COLE
new york
OLD NAVY OUTLET
SALE
SWEATERS
buy 1 get 1 free

Photo courtesy of Sto Corp.

EIFS. ENGINEERED FOR PERFORMANCE

Exterior Insulation and Finish Systems. No other wall system offers the design freedom to create intricate details, dynamic forms and curves, with unlimited colors, textures, and specialty finishes, AND optimal protection against the elements, energy efficiency and economy. EIFS has been proven on billions of square feet worldwide for over 50 years. Call 770-968-7945 or visit **www.EIMA.com** Engineered for performance. Designed to inspire.

EIMA EIFS INDUSTRY MEMBERS ASSOCIATION

CIRCLE 68 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Glacier White
M
K
U
S
Perla Plant

*fan*ciful and *free*

A fan can be beautiful, and beautifully useful. Our Color Guide artfully unveils 67 Acme Brick blends that enliven designs and add green building benefits. Each sample reveals lifelike color and detail for exploring our spectrum with ease and confidence.

Please visit
brick.com/colorguide
to request your free
"Color Guide for Architects."

ACME BRICK

Also at brick.com, download Masonry Designer, a free companion program to design with Acme Brick and related masonry products. Plan coursing, patterns, and mortar colors with realistic detail to print and share with clients and colleagues.

CIRCLE 69 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Architectural Technology

CONTENTS

151 **The New Age of High-Tech Hospitals**
160 **For Smart Materials, Change Is Good**
164 **A Prague Stairwell's DNA Structure Revealed**

This light project takes smart materials up a notch (page 160).

DNA sequences inspire the smart design of a stairwell (page 164).

PHOTOGRAPHY: COURTESY KENNEDY & VIOLICH ARCHITECTURE AND MATX (TOP LEFT); MSKCC (RIGHT); © FILIP SLAPAL (BOTTOM LEFT)

Smart, smarter, smartest

Smart hospitals. Smart materials. Smart design. This month, we take "smart" three ways. Of course, it can mean so many things, but when we think about it in terms of architecture, we typically invoke technology. Smart design adds a layer of informed wisdom, feedback potential, or control to the increasingly interwoven systems that make up architecture. We've often used the term to hype a future eased by technological breakthroughs. In the middle of the last century, we would have thought about automation and the ways in which buildings do things without human intervention. Think of thermostats and lighting-control systems, both of which have become standard components of architecture.

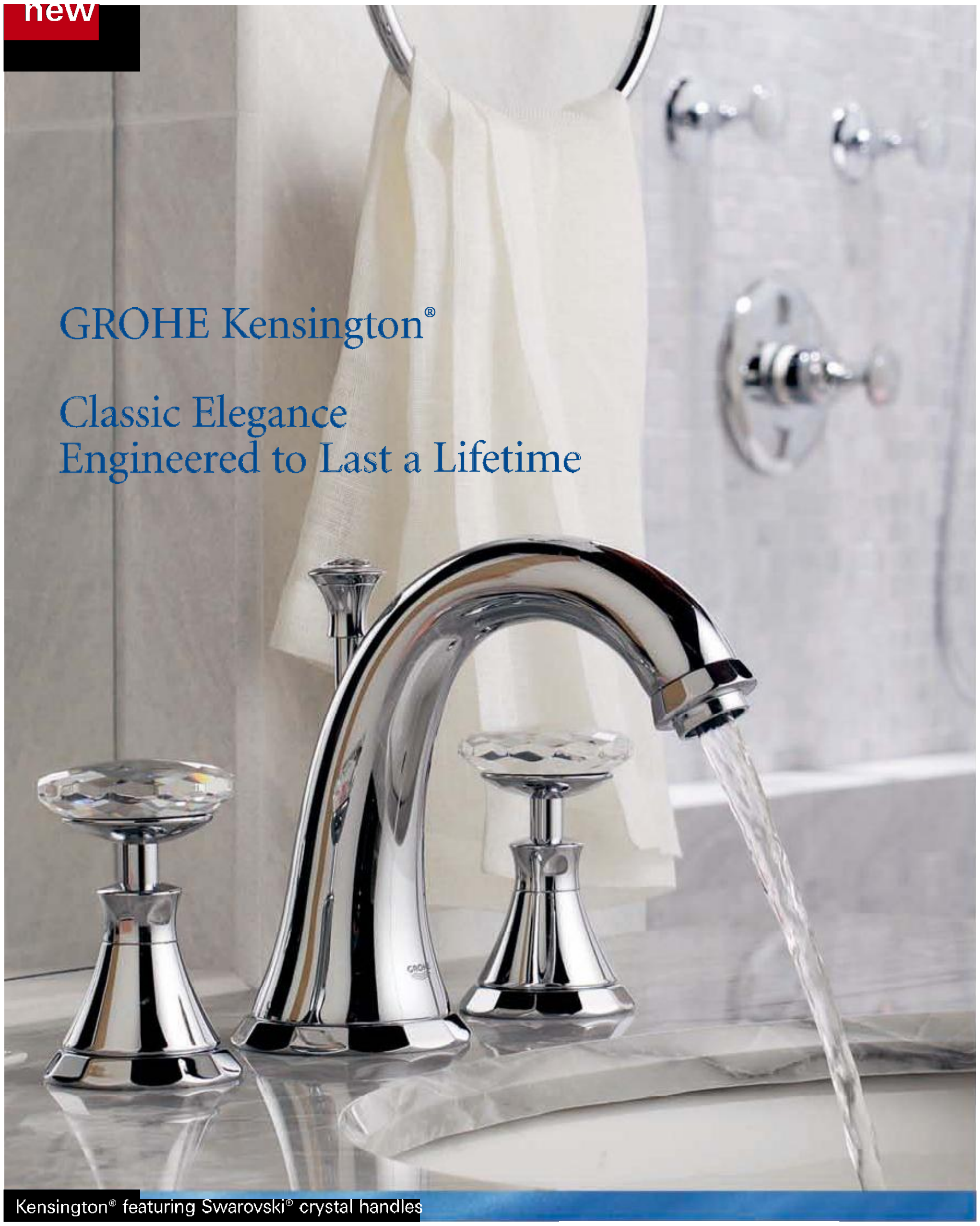
Now, we must consider the ubiquity of information technology (IT) and how it has spread to nearly every aspect of building technology. A ballast in a fluorescent light fixture becomes an Internet protocol address in a computer network that sees architecture as a simple set of numbers to decode. *The Matrix* aside, anything can reside on the networks of this virtual architecture. The convergence of IT systems in health care leads the building industry's embrace of technology's potential, so we begin by looking at high-tech hospitals. Not surprisingly, we find them far from a seamless paradigm of integration. Health-care architects face a complicated task of sorting through rapidly developing technologies, but they can often overlook who should be their best friend: the IT consultant.

We then consider smart materials, particularly the way they are underutilized by the architecture profession. Why do we insist on subjugating new, little-understood materials to the realm of predetermined, market-based construction categories? Too often, this leads to the misuse of materials or, worse, it prevents our buildings from exploiting the full benefits of a material's potential. Thankfully, some architects are working to change that for the better.

Finally, we close with a stairwell in Prague that takes the coded genetic underpinnings of what it means to be smart—DNA—as inspiration for the etched pattern on its glass landings. It turns out that intelligent design is all around us, if we take the time to see it. *Russell Fortmeyer*

ONLINE: View additional images of other health-care projects at ***architecturalrecord.com/tech/***. Submit your project to ***construction.com/community/gallerylist.aspx***.

new



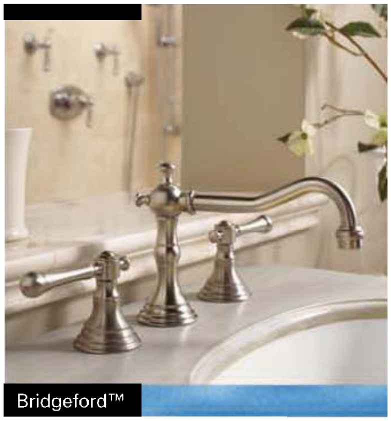
GROHE Kensington®

Classic Elegance
Engineered to Last a Lifetime

Kensington® featuring Swarovski® crystal handles

Somerset™

Kensington®



Bridgeford™

GROHE's new traditional lines: Kensington®, Somerset™, and Bridgeford™ bring understated luxury to the premium bath. These new collections seamlessly mix design references from the past with advanced technological features. Exclusive GROHE technologies create the ultimate "enjoy water" experience.

- **GROHE SilkMove®** for lifelong precision and effortless fingertip control
- **GROHE StarLight®** chrome provides a lustrous, mirror-like shine for a lifetime
- **GROHE WhisPer®** provides the soothing sound of a gentle stream

Traditional Lines from GROHE…Performance You Can Feel.

GROHE
ENJOY WATER®

CIRCLE 70 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

© 2007 GROHE America, Inc. | www.groheamerica.com

The New Age of High-Tech Hospitals

INFORMATION TECHNOLOGY AND DIGITALLY ENABLED MEDICINE MAY BE CONVERGING ONTO A SINGLE SYSTEM, BUT ARE ARCHITECTS PREPARED TO TAKE THE LEAD WITH THEIR HEALTH-CARE CLIENTS?

The planned Sidra Medical and Research Center in Doha, Qatar, will combine architectural spectacle with advanced health-care technology.

IMAGE: COURTESY PELLI CLARKE PELLI ARCHITECTS

CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ *AIA Continuing Education article. To earn one AIA learning unit, including one hour of health, safety, and welfare credit, turn to page 159 and follow the instructions. Other opportunities to receive Continuing Education credits in this issue can be found beginning on page 167.*

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. *Describe changes in technology that will affect hospital design.*
2. *Explain the advantages of converging networks onto fiber-optic cable.*
3. *Discuss the IEEE standards that will promote convergence.*

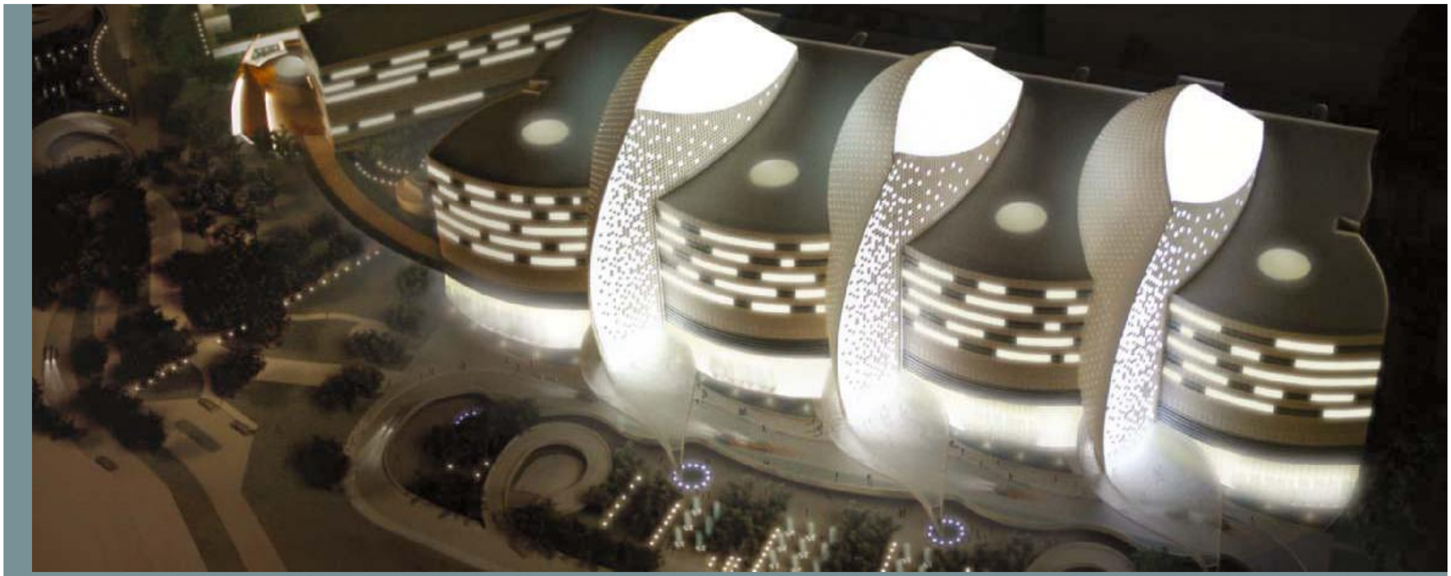
For this story and more continuing education, as well as links to sources, white papers, and products, go to **architecturalrecord.com/tech/**.

By Russell Fortmeyer

The best new digitally enabled American hospital of the next five years may be in Qatar. This tiny Middle Eastern state has brought together American architects Ellerbe Becket and Pelli Clarke Pelli to design the technologically advanced Sidra Medical and Research Center, part of the ambitious Education City project in Qatar's capital of Doha.

If built as planned, Sidra would epitomize a fairly progressive model of acute-care hospital design, where architects and their clients deploy technology in a variety of modes: in the realm of patient care; for enabling international collaboration and education in the medical field; to operate building systems; and to design the building itself. Perhaps most explicitly, technology could be used as a way to explain the hospital and its spaces to visitors. But what all of these disparate applications may ultimately share is a single digital conduit—or backbone—that collapses the information technology (IT) supporting the processes of running a hospital onto a piece of fiber-optic cable.

"Before, each system had its own cabling infrastructure, while now that's no longer the case," says Joe Leger, a Seattle-based principal with EDI, a group of information-technology consultants based in Atlanta who specialize in health-care technology. "When we ask for large rooms for IT, architects cringe, but we're actually saving space because



IMAGES: COURTESY ELLERBE BECKET AND PELLI CLARKE PELLI ARCHITECTS
(THIS PAGE AND OPPOSITE, LEFT)

traditionally we would have been asking for individual rooms for each system." Leger is consulting with Ellerbe and Pelli on the nearly 400-patient-bed, 1.7-million-square-foot Sidra project. The hospital—Sidra is the name of an indigenous tree in Qatar—will be operationally connected to the Weill Cornell Medical Center in New York City.

Nowhere has convergence caught on more than in the operating room (OR) suites, where the past five years have seen an explosion in the use of flat-screen monitors, interventional radiology equipment, and videoconferencing capabilities that have brought such heretofore invisible support equipment, like IT racks and cabling wireways, into a realm previously considered sacrosanct for reasons of hygiene.

Contrary to this development, however, the emergence of the IT consultant as a major player at the health-care design table continues slowly, with many consultants still lamenting that by the time architects include them in the process, it's often too late. Furthermore, the health-care industry, and its architects, increasingly grapple with a variety of digital-infrastructure issues, such as myriad cable options and space planning, that have yet to be codified. But industry players see change on the horizon.

All systems go

The sheer number of digital systems that go into a hospital has encouraged clients to embrace convergence. On the medical side, these systems can include both informational and clinical kinds, such as Electronic Medical Records (EMR), Picture Archival and Communications Systems (PACS), and radio frequency identification tagging (RFID). Systems such as nurse call, code blue, fire alarm, and telemetry and patient monitoring (vitals) are placed on separate networks, since they are critical systems. Communications systems, such as voice-over Internet protocol (VOIP), video- and teleconferencing, and overhead paging, are also typically separate. Security, including infant abduction systems, are yet another separate item. The building systems side, typically the province of the mechanical engineer and a building-management system (BMS), often consists of monitoring the mechanical ventilation systems, indoor air quality, and humidity, as well as central plant equipment operating status. In some cases, the BMS may monitor lighting systems and energy use, though this is less common.

Hospitals have pushed for medical systems to go wireless, which conceivably allows medical staff, particularly nurses, to stay mobile and yet connected. For example, with a VOIP system, which routes telephone calls across a network—as opposed to a conventional phone system—a hospital can direct a call for a nurse to one of several locations: an office phone, pager, cell phone, overhead paging speaker, or even the nurse call device at a patient's bedside. This connectivity depends on a distributed antenna system (DAS) throughout the hospital; the antennae look like smoke detectors, but they are basically wireless on-ramps to the hospital's network. What makes this transfer between

Sidra Medical and Research Center
Doha, Qatar

Three offices of Minneapolis-based Ellerbe Becket, with design architect Pelli Clarke Pelli Architects, are collaborating on this new, 1.7-million-square-foot hospital in the Middle East. Sophisticated wayfinding displays and interactive flat-screen TVs in patient rooms use technology to soften the visitor's experience.

Memorial Sloan-Kettering Cancer Center
New York City, 2006

Perkins Eastman and KMD Architects collaborated with the facility and IT consultants Shen Milsom & Wilke on new surgical suites for this existing cancer center, incorporating what is arguably the most progressive technology program for ORs in the country (above). Doctors can access pathology results on videoconferencing equipment in any of the 21 rooms (right).

PHOTOGRAPHY: © CHUCK CHOI (TOP RIGHT); COURTESY MSKCC (BOTTOM RIGHT)

communication device, antenna, and network even possible is so-called "middleware," a software solution that translates the voice data between these various digital components. Mario Sanchez, a technology consultant with the Los Angeles office of RTKL Architects, refers to this concept as the "call-escalation procedure." Once a call is converted to data, moving it around the network simply depends on the preference of the hospital. "Facilities are being very slow at adopting this because it's a huge capital investment," Sanchez says, noting that many hospital projects occur on existing campuses where design teams face established standards for IT infrastructure.

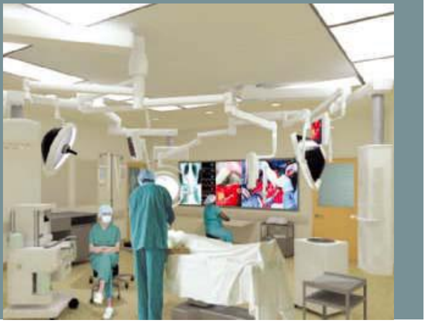
Regardless of the potential for convergence, and given the sweeping nature of the Health Information Patient Privacy Act (HIPPA) passed in 1996, directing large amounts of sensitive data around digital networks has concerned many hospitals. This becomes more critical when a hospital adopts EMR systems, where a patient's entire medical history may be moving throughout a statewide medical records system, such as will be the case in Wisconsin. Mark Valenti, the president and C.E.O. of Pittsburgh-based technology consultants The Sextant Group, says firewalls are effective, but there can still be considerable security risk. "It's less expensive to build a couple of networks than to think about a converged environment, once you start to consider the risks," Valenti says. This is mainly true because most digital devices are fed with copper wire, since fiber optics are expensive and are used mainly for the backbone of the system. Copper wire, Valenti says, is easy to strip of data, but fiber-optic cables are secure and, since they hold so much data, would make systems convergence a snap. However, he says it could be 10 to 20 years before fiber optics are cheap enough to replace copper.

Converging bricks and mortar

Convergence translates to health-care architecture mostly through the centralization of these systems in massive new data centers, as well as the proliferation of smaller closets to handle wireless devices or critical components that cannot be housed with other systems. Consider that instead of three antennae in the corridor ceiling for different systems, one antenna feeds back to an IT closet where each system's control unit would be mounted in an equipment rack. With each additional system, more rack space is needed, and IT closets get larger. This situation, as well as how all of these IT considerations affect the operational procedures of the hospital, explains why consultants like RTKL's Sanchez argue for their early involvement in design. The tendency of architects in planning the building to use out-dated grossing factors—standardized area-allocation percentages—which affect square footage for IT space, only exacerbates the problem.

For example, take the PACS system, which is basically a digital X-ray, or could be something like magnetic resonance imaging (MRI) results. Doctors and radiologists use these images to diagnose a patient. A doctor may want to review that information at the patient's bedside, in an

The Heart Hospital
Geisinger Wyoming Valley



Geisinger Wyoming Valley Medical Center
Wilkes-Barre, Pennsylvania, 2003–08

Philadelphia-based architects Francis Cauffman designed the operating rooms for the in-construction critical-care building to be 600 to 800 square feet, versus the industry standard of 400 to 600 square feet, in part to accommodate more technology (right). That building is part of a larger master plan (top right) that included a heart hospital (above and middle right).

OR, or on a golf course, so the IT system must accommodate compression formats that support moving this data between everything from large-screen monitors to handheld personal digital assistants (PDAs). If the IT consultant can't establish these hospital operational needs early on, adding equipment racks at the end of the construction document phase may prove impossible. This is the sort of "planning" that leads to IT rooms in converted janitor's closets.

"The rate of change on the technology side complicates long-range planning," says Jim Crispino, AIA, president of the Philadelphia-based firm Francis Cauffman, "but you just have to build that space into your infrastructure." Crispino, who leads his firm's health-care design from its New York office, feels that health care is in a technology transition, where old systems like light boxes for X-rays are still required, even when hospitals have adopted digital formats.

The penchant for building flexible shell space, particularly for new hospitals, can often lead to complications, he says, because while a hospital may agree to build 500 square feet of shell space for a future CT scan room, they may not agree to build 50 square feet for an IT closet to support it. "We have to understand that these things have a physical presence, and because of that very simple fact, how they are configured and where they reside needs to be coordinated by the architect," Crispino says. If you ask many IT consultants whether most architects understand what Crispino is saying, you're likely to hear a resounding no. But that is changing as more health-care clients have recognized how poor decisions about technology infrastructure can haunt their buildings for years to come. By 2009, it's expected that a new version of the National Fire Protection Agency's *Standard for Health Care Facilities* (NFPA 99) will codify things such as IT room sizes, basically forcing the issue on architects.

Operating rooms under the knife

The ORs in a new addition at New York City's Memorial Sloan-Kettering Cancer Center opened in May 2006. Designed by architects Perkins Eastman and KMD, with New York IT consultants Shen Milsom & Wilke (SMW), the technology installed in the 21 ORs represents an advanced model of digitally enabled health care. Aside from a PACS system, SMW designed a Digital Video Archival and Communication System (DVACS) that integrates digital video editing, indexing, digital video transport, patient monitoring, audiovisual systems, and various medical systems into a single, time-stamped digital file that could be searched based on spoken word, time parameters, or even something like heart-rate information.

For example, a doctor could review a procedure to pinpoint each time a patient's heart rate exceeded a certain level. Doug Santo, a consultant with SMW, helped develop each OR's Wall of Knowledge, which basically amounts to flat-screen televisions programmed to display things like radiology images, live video of the procedure, endoscopic images, or patient vitals. "In order to collect five physiological monitor

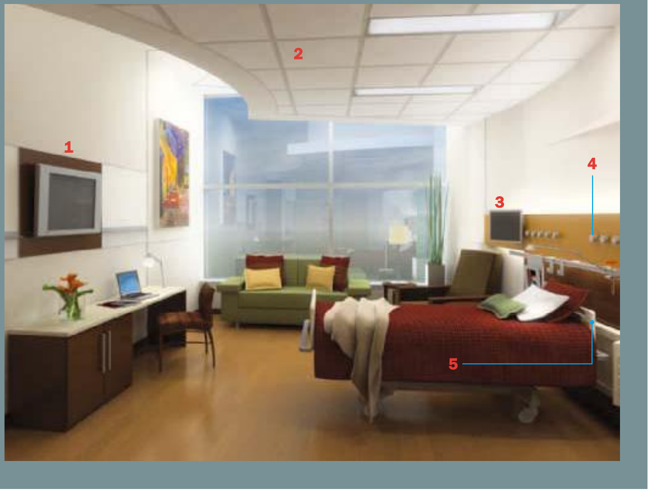
IMAGES: © DON PEARSE PHOTOGRAPHERS (LEFT AND MIDDLE RIGHT); COURTESY FRANCIS CAUFFMAN (TOP AND BOTTOM RIGHT)

Formaldehyde-free panels.
People might start calling you a ceiling-hugger.
USG

Though you might not have known it, most ceiling panels contain formaldehyde. USG has an alternative: a reformulated line of cast ceiling panels that are formaldehyde-free at no additional cost. Not only do these panels help improve indoor air quality, they're durable and feature enhanced antimicrobial properties. It's all part of USG's commitment to sustainable design. And to healthy interiors.

www.SustainableCeilings.com

© 2007, United States Gypsum Company



Methodist Mansfield Medical Center,
Mansfield, Texas, 2006

1. *Internet-enabled TV*
2. *Wireless antenna*
3. *Patient monitoring*
4. *Nurse call system*
5. *RFID-tagged patient bed*

Dallas-based RTKL Architects designed this 285,000-square-foot acute-care hospital (above), located near Dallas, with an emergency department, surgery facilities, 80 private patient rooms, a cardiac catheterization lab, and a women's hospital. A typical IT closet (above right) includes equipment racks for such things as nurse call, communications, paging, telemetry and patient monitoring, and videoconferencing. Additional shell space in these rooms can help hospitals plan for the future. RTKL has developed a model for patient rooms (right) that the firm plans to deploy across the large number of health-care facilities it designs every year.

feeds and combine them into one digital model is fairly complex," Santo says, adding that expensive software does most of the work.

The integrated systems in the ORs at Sloan-Kettering benefited a great deal from a client who knew how to coordinate the needs of both the surgical side and the facility IT side, says Doug Gordon, AIA, with KMD's Portland, Oregon, office. "In my experience, IT has definitely come around to become a more sophisticated part of the hospital's infrastructure, for surgeons and facilities managers," Gordon says.

At Sloan-Kettering, SMW installed a video-only IP network, to keep the huge streams of data from competing with things like e-mail on the regular network. Although this enormous video archive of thoroughly documented procedures opens the hospital to potential liability issues, it is a boon to medical education and to minimizing the need for invasive procedures. This last benefit is significant, as a doctor can now take a biopsy before a procedure and get digital results back quickly enough from a pathology lab that a diagnosis can be made in the OR. In some cases, it can eliminate the need to bring the patient back to the OR and under anesthesia again—which is always a risk—following a later diagnosis. The technology has enabled even further compartmentalizing of responsibilities, as SMW's Santo says some hospitals have electronically transferred radiology images to diagnostic services in India and Australia, to save both time and money. "The technology is just there to help the surgeons do their jobs better," he says.

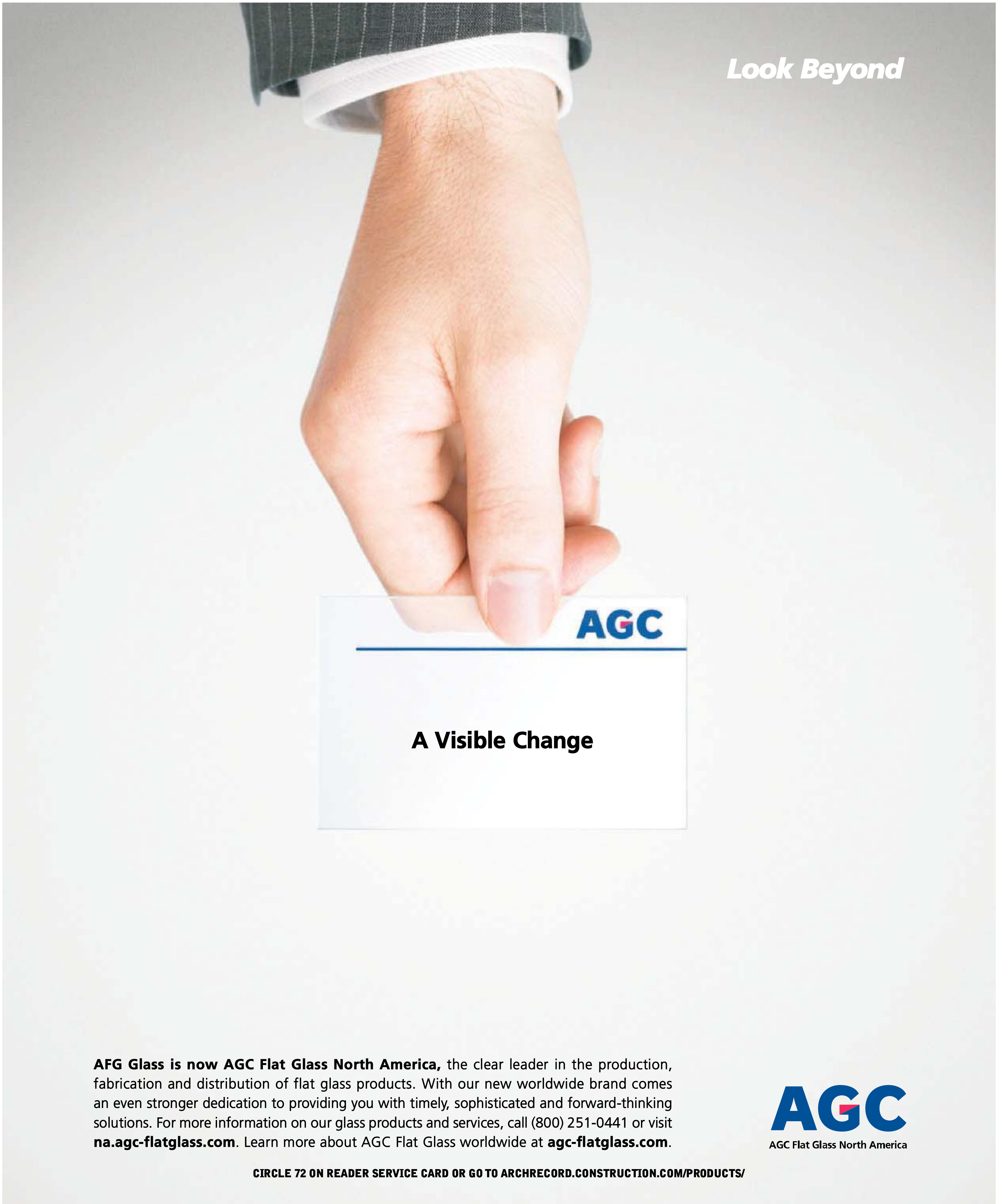
Diagnosing the building

If anything has held up the convergence of these myriad electronic systems, it has been that medical-equipment and building-products industries have remained apprehensive about standardizing technology. Every nurse call system on the market uses proprietary technology. Building-management systems, which have become even more comprehensive in the past five years, also suffer this fate. What that means is that a health-care client must live with a specific system for years, if not decades, since changing would require a costly wholesale replacement.

A huge motivating factor for digital convergence is the developing standard 802.11-2007 of the Institute of Electrical and Electronic Engineers (IEEE). Without adding yet more acronyms to this article and further confusing the reader, this standard basically governs wireless networks in buildings, establishing protocols for bandwidth, capacity, and speed. As an example, EDI's Leger points to telemetry, which is a wireless system that allows hospitals to track a patient's vitals no matter where they are in the building. Currently, telemetry would be on its own network, but Leger says several manufacturers are working to operate systems over the 802.11 standard. As more types of technologies converge onto the 802.11 standard, fewer wires will be needed in cable trays. However, Leger is quick to admit wired networks won't go away, since they have unparalleled reliability.

Building-management systems, provided by industry giants like Honeywell, Johnson Controls, and Siemens, among others, offer much

PHOTOGRAPHY AND RENDERING: COURTESY RTKL ARCHITECTS



AFG Glass is now AGC Flat Glass North America, the clear leader in the production, fabrication and distribution of flat glass products. With our new worldwide brand comes an even stronger dedication to providing you with timely, sophisticated and forward-thinking solutions. For more information on our glass products and services, call (800) 251-0441 or visit **na.agc-flatglass.com**. Learn more about AGC Flat Glass worldwide at **agc-flatglass.com**.

AGC
AGC Flat Glass North America

CIRCLE 72 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

potential for streamlining hospital operations. Devices like RFID tags, thermostats, chiller alarms, and light sensors could all communicate across a single network, which would allow other devices to be added in the future to create a digital mesh across the facility. IEEE's standard 802.15, commonly referred to as "ZigBee," governs so-called mesh networks. ZigBee is a data protocol for a low-power, low-bandwidth network, and it is the standard the industry will eventually adopt. A mesh network, as opposed to a daisy-chain approach, eliminates widespread failure because devices are connected to each other in multiple ways. A thermostat would connect to thermostats in each adjoining room, or could potentially connect to something like a light fixture ballast. Each point along that mesh is just another IP address in the network. RTKL's Sanchez considers this integration, or what we could call a "smart building," like an insurance policy against the future. "We know there's going to be more technology coming down the line," he says. "The most consolidation you can do at the beginning, the better you'll be positioned when it arrives."

Cheap energy often prevents the implementation of such building-management systems. The Sextant Group's Valenti sees this firsthand, as he helped develop the *Intelligent Buildings Roadmap* for the Continental Automated Buildings Association. The *Roadmap*, finished in April 2007, is essentially a marketing push for the adoption of comprehensive systems in buildings to combine electrical, mechanical, security, communications, data, and just about anything else currently residing on a digital network. Valenti says there is little incentive for a facility manager to implement what could be a costly system, when energy rates remain historically low. "An intelligent building would have a piece of software programmed to automate all of this," he says. Valenti imagines that a client could tie room scheduling to the mechanical system, where a vacant conference room could shut its cooling off when not in use. That may sound like peanuts, but in a 500,000-square-foot hospital, the savings add up quickly.

That's the sort of thinking that motivates the design team on the Sidra project in Doha, which is being designed as a building information model (BIM) to achieve a seamless integration from the beginning. Travis Leissner, AIA, with Ellerbe's Minneapolis office, says visitors will get a taste of the digital convergence of the hospital's systems from the moment they walk in the door. Large, wall-size LCD screens in the atrium lobbies will direct patients to their appropriate hospital—adult, women's, or children's—based on the projection of related imagery. It's a bold, digital effort at wayfinding, often a sore spot with hospital patients. Summarizing the approach to the elegant campus, which begins construction this fall for a 2010 completion, Leissner says, "The concept for the hospital was to be both high-tech and high-touch, so patients have sophisticated technology in an inviting, healing environment." Once Sidra opens and the digital systems go online, patients may find they require more than just nursing care—perhaps also some bedside IT support to assist with e-mail. ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "The New Age of High-Tech Hospitals" using the learning objectives provided.**
- **Complete the questions below, then fill in your answers on the next page.**
- **Fill out and submit the AIA/CES education reporting form on the next page or download the form at archrecord.construction.com to receive one AIA learning unit.**

QUESTIONS

1. Recently, operating-room suites have incorporated all except which technologies?
a. voice-over IP systems
b. flat-screen monitors
c. videoconferencing
d. interventional radiology

2. Aside from a higher capacity for transmitting data, the use of fiber-optic cables for hospital technology systems is especially beneficial for which reason?
a. fiber-optic cable is more flexible
b. fiber-optic cable is cheaper
c. fiber-optic cable is more secure
d. fiber-optic cable is stronger

3. Hospitals have pushed for medical systems to go wireless for which reason?
a. to cut down on IT equipment
b. for staff to stay connected while being mobile
c. to eliminate overhead paging
d. to keep better track of the staff

4. The digital transfer of voice between communication devices, antennae, and networks is possible because of which?
a. video input
b. a software that translates the voice data between digital components
c. fiber-optic cables
d. mesh networks

5. The installation of videoconferencing and recording technology will most dramatically affect physicians' ability to do what in an operating room?
a. digitally record a procedure
b. watch the procedure from a remote location
c. both diagnose and treat patients during a single procedure
d. broadcast the procedure to a patient's family

6. What has been the biggest hindrance to digital convergence of building-management systems in hospitals?
a. electrical codes
b. proprietary technology
c. lack of leadership from hospitals
d. FCC standards for health care

7. The largest motivating factor for digital convergence of wireless IT systems is which?
a. HMO lobbyists
b. nurses' unions
c. American Medical Association
d. IEEE Standard 802.11

8. Wired networks will not go away for which reason?
a. their reliability
b. their cost advantage
c. they are the FCC standard
d. IEEE code requires them

9. What is an advantage of a mesh network?
a. it is currently the industry standard
b. it will eliminate widespread failure because devices are connected in multiple ways
c. it centralizes the majority of IT equipment in dedicated rooms
d. it is a data protocol for a high-energy, low-bandwidth network

10. In the Sidra project, patients will find their way to the appropriate hospital through which method?
a. color-coded arrows on the floor
b. volunteers giving directions
c. handheld GPS devices
d. LCD screens in each lobby

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

Program title: "The New Age of High-Tech Hospitals," Architectural Record (09/07, page 151).

097EDIT1

AIA/CES Credit: This article will earn you one AIA/CES LU hour of health, safety, and welfare credit. (Valid for credit through August 2009.)

Directions: Select one answer for each question in the exam and completely circle appropriate letter. A minimum score of 80% is required to earn credit.
Take this test online at http://archrecord.construction.com/continuinged/default.asp.

1.	a	b	c	d	**6.**	a	b	c	d
2.	a	b	c	d	**7.**	a	b	c	d
3.	a	b	c	d	**8.**	a	b	c	d
4.	a	b	c	d	**9.**	a	b	c	d
5.	a	b	c	d	**10.**	a	b	c	d

Last Name **First Name** **Middle Initial or Name**

Firm Name

Address **City** **State** **Zip**

Tel. **Fax** **E-mail**

AIA ID Number **Completion date (M/D/Y):**

Check one: ☐ Payment enclosed. (Make check payable to *Architectural Record*) For customer service, call 877/876-8093.

Charge my: ☐ Visa ☐ Mastercard ☐ American Express **Card#**

Signature **Exp. Date**

Check below:

☐ **To register for AIA/CES credits:** Answer the test questions and send the completed form with questions answered to above address, or fax to 888/385-1428.

☐ **For certificate of completion:** As required by certain states, answer test questions, fill out form above, and mail to above address, or fax to 888/385-1428. Your test will be scored. Those who pass with a score of 80% or higher will receive a certificate of completion.

Material resources used: Article: This article addresses issues concerning health and safety.

I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.

Signature **Date**

Tambient
lighting at work™

Lights the ceiling, task and immediate surround from one T5 lamp, furniture mounted. Available with personal dimming control and interface for daylight response and power load shedding networks.

Comfortable … affordable … as low as 0.6 w/sf.

www.tambient.com

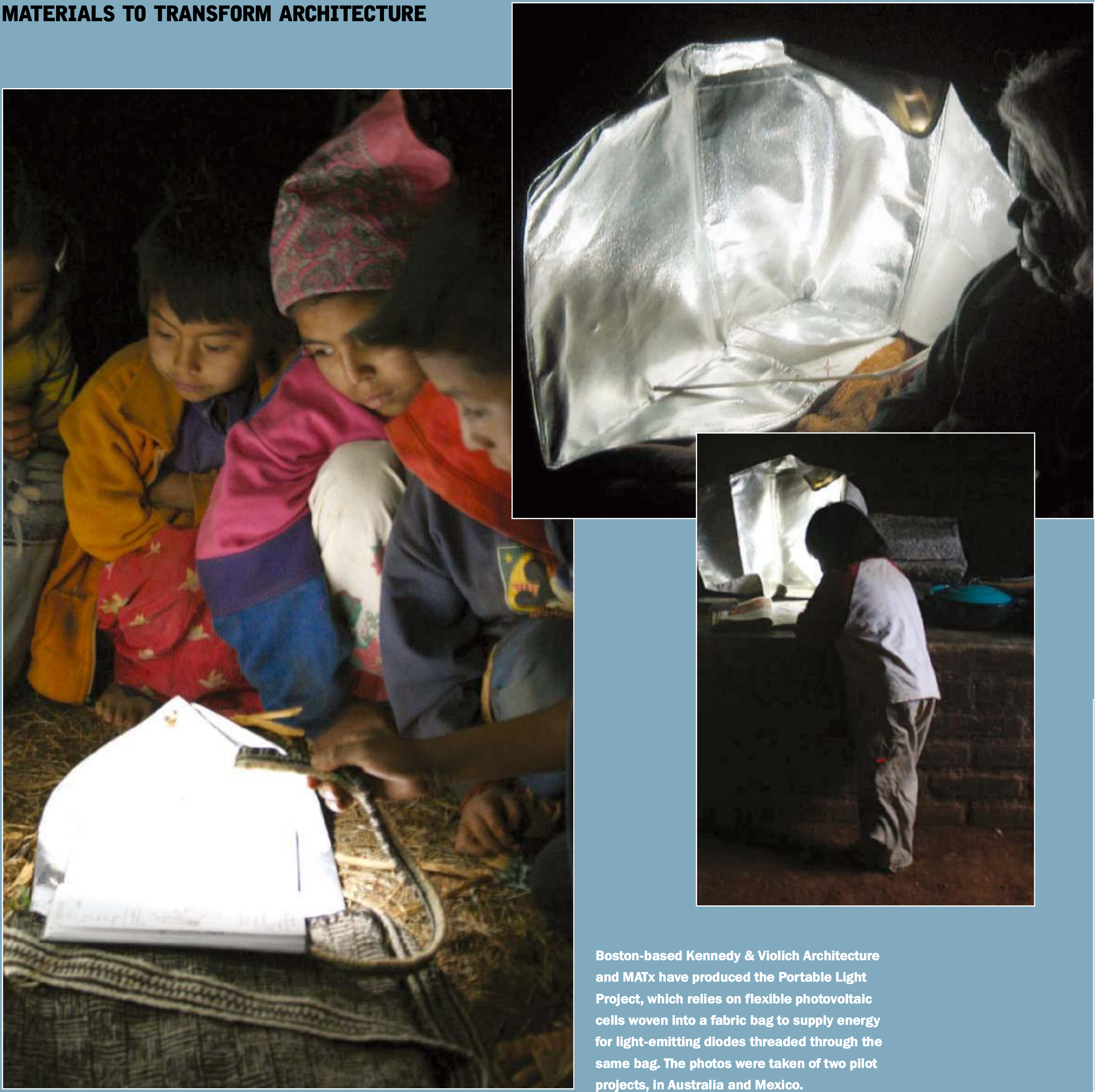
U.S. GREEN BUILDING COUNCIL MEMBER

a division of Sylvan R. Shemitz Designs, Inc., makers of **elliptipar**

CIRCLE 73 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

For Smart Materials, Change Is Good

OUR TRADITION OF CLASSIFYING MATERIALS IN GIVEN CATEGORIES HAS TENDED TO OBSCURE THE POTENTIAL FOR UNCONVENTIONAL MATERIALS TO TRANSFORM ARCHITECTURE



Boston-based Kennedy & Violich Architecture and MATx have produced the Portable Light Project, which relies on flexible photovoltaic cells woven into a fabric bag to supply energy for light-emitting diodes threaded through the same bag. The photos were taken of two pilot projects, in Australia and Mexico.

PHOTOGRAPHY: © COURTESY KENNEDY & VIOLICH ARCHITECTURE AND MATX

By Michelle Addington

We presume that the link between intention in design and the materials we choose is deterministic: The right collection of materials will yield the desired effects both aesthetically and performatively. For example, a glazed curtain wall may be designed to visually dematerialize the exterior of the building while providing a predictable and measurable quantity of daylight to the interior. In this mode, the material is the effect, and as such, it is often foregrounded. Indeed, many of us are more familiar with the facade materials of Herzog & de Meuron's projects than we are with the projects' spatial organizations. This de facto coupling of material with effect is reflected in our classification systems, whether organized by material—metal, wood, concrete—or by end use—tile, roofing, cladding. Conventional materials are thus understood and applied as artifacts: physical, tangible, and static. Our classification systems, such as the Construction Standards Institute categories (CSI), group these artifacts into a familiar and finite set of extensively documented materials with which there is collective experience.

It is through this lexicon that "smart" materials have entered the profession of architecture. While definitions as to smartness abound, the most generalized one is that smart materials are transformative: The transformation may be within the material itself, as in one of its properties or its physical state, or the material could be the vehicle to transform other things, such as energy forms or the surrounding environment. These are materials, then, whose most salient descriptor is motion. Even though this is starkly counterintuitive to the inherent stasis of conventional materials, we have tried to shoehorn smart materials into our normative categories. Any smart material with a transparent or translucent state is placed in the glazing category, and any light-emitting material is dispatched to the electric-lighting category. We do this to increase our comfort level with their use. When something like an electrochromic is placed into the glazing category, we understand it and thus use it as a substitute for glass, albeit a very expensive substitute. We specify it in the same sizes and shapes as glass. We justify its expense relative to standard glazing by comparing their performance. A smart material becomes but one of many choices for a given end use.

This subordination of the material to how we usually do things often prevents us from exploiting the truly remarkable characteristics of these materials. Instead, much of the attention has been placed on demonstration. For example, installations with color-changing materials didactically demonstrate that the materials change color. In the desire to provide a visual marker of interaction with these materials, we are instead continuing to articulate them as building-scaled artifacts. The unrealized potential of smart materials resides in their instrumentality, which is a bit of a paradox: The spectacle of their transformation, the aspect that has so captivated architects and designers, is incidental.

As materials of motion, all smart materials involve an energy transfer in some form or another for transformation to take place. The type of energy that is transferred determines how the material state—temperature, pressure, density, or internal energy—will change. The quantity of energy that is transferred to produce this change is determined by the properties of the material. This relationship governs the behavior of all materials, including smart ones. In conventional materials, the properties scale the relationship between state change and energy transfer. For example, a material's specific heat (property) will determine how much heat (energy) is needed in order to change its temperature by a specified amount. From the deflection of a material under a structural load to the color that a material appears to be, the relevant material properties will produce repeatable

Michelle Addington, an associate professor of architecture at Yale University, wrote Smart Materials and Technologies in Architecture *(2004) with Daniel Schodek.*

Phase changes in liquid crystals, such as these used for LCD screens, act as on/off switches for light. The color is produced by filters placed over the liquid crystals.

IMAGES: COURTESY OLEG D. LAVRENTOVICH/KENT STATE UNIVERSITY'S LIQUID CRYSTAL INSTITUTE

results. Smart materials add a wrinkle to this predictability in that the relationship is no longer scalar or linear. A material's property might shift to another value, an energy input might turn into a different form of energy.

Depending upon what is changing and what motivates the change, we can group smart materials into four categories:

(1) A change in state produces a change in the material property. A thermochromic material reflects a different color when the temperature changes. The material state of temperature determines the material's property of spectral reflectivity. In this category, we find such things as liquid crystals (driven either by a change in temperature or chemical concentration).

(2) An energy input produces a change in the material property. A photochromic material changes its spectral transmissivity (the ability for light to pass through it) when radiation (light) transfers into the material. This category also describes electrochromics (an input of electrical energy) and many of the viscosity-changing materials.

(3) An energy input is transformed into a different energy output. A photovoltaic converts an input of radiation into an output of electricity. Most of the semiconductor-based smart materials are in this category, such as light-emitting diodes (electrical energy into radiation).

(4) A change in state produces another change in state (internal energy) that transforms properties and the energy output. Shape memory alloys are in this category: When the temperature of the alloy changes, the material undergoes a crystalline phase change (internal energy) that produces an output of mechanical energy (strain).

We begin to recognize that smart materials provide the ability to precisely design behaviors. The material becomes secondary to the effect, and if we properly map how a transformation could and should proceed, then we will discover that numerous materials are capable of producing the behaviors to yield a desired effect. Decoupling material from effect is but one challenge in working with these materials—a more difficult one is determining how to directly design for effect. An effect should be more than the production of a different color, it should result from the instrumentalization of the different color. Does the change in color reduce the ambient light levels? Does it obscure visibility? Should it activate an interior system? Could it visually change an object's apparent location in the field of view? Looking at just one behavior—the transmission of light through a transparent medium—we find that several smart materials are capable of controlling transmission, but there are significant differences in how they do so, as well as in the specific results. The spectral composition of the light might be altered, the light may be diffused or redirected, view may be diminished, and ultraviolet or infrared radiation may be absorbed or reflected. Smart glazing is often proposed as a seamless method for stabilizing interior light transmission as daylight levels change, but no material actually does this.

The smart material that has penetrated furthest into the field of architecture is the light-emitting diode, or LED. Less than five years ago, LEDs were found only in novelty applications, such as disco dance floors. White light from LEDs has recently proliferated into general, or ambient, room lighting in competition with fluorescent and High Intensity Discharge (HID) systems. Although less efficient than conventional general lighting, and much more expensive, LED lighting has nevertheless been designated as a "green" technology, which has helped encourage its use. This evolution illustrates the path taken by many smart materials as they enter into the architecture field—first demonstrative, then performative as we fold them into our normative practice.

If we could step away from standard practice and conventional applications, we would find that smart materials present unprecedented opportunities to challenge the accepted, and unquestioned, beliefs about how building systems should perform. A closer examination of LEDs would reveal their specific characteristics: narrow spectral bands, precise angles and directionality, tiny size, discrete addressability, and reliance on DC power. None of these characteristics are desirable for a general lighting system based on a wide spectral bandwidth, diffuse spreading of the light over large surface areas, and an AC power supply. The characteristics of LEDs, however, are a remarkable match for how the receptors in the eye actually perform. Minute shifts in luminance in the field of view determine our reading of depth and space, while differences in discrete wavelengths determine how we recognize figures. Lighting design for the eye rather than for the building would result in radically different locations and distribution of LEDs, away from the ceiling and discretely placed within certain angles of view. Architects would be able to "script" the view field, and in so doing, meet needs-enhanced vision with dramatic reductions in energy use.

The Portable Light Project, by Sheila Kennedy, with Boston-based Kennedy & Violich Architecture and MATx, demonstrates the instrumental mating of material behavior to phenomena. Flexible photovoltaics, woven into cloth bags, produce DC power that then directly powers LEDs embedded into the same bag. The bag can be unfolded into several configurations depending on the quality of light needed and where it is needed. The project leverages the inherent behaviors of the individual smart materials to yield results that are direct, discrete, transient, and local. Lighting that is designed for the use and the user, rather than for the building, challenges the generic building systems we have tried to force-fit smart materials to engage. To truly exploit these materials, we must not only understand their specific behaviors but also the phenomena they act upon.

Developed as engineering materials, smart materials are constantly emerging, evolving, and rapidly becoming obsolete. When we background the material, using it instrumentally rather than performatively, we decouple material from effect. Any number of materials can manipulate any number of behaviors to produce a desired effect. Designing to manage transient phenomena breaks the hegemony of conventional building materials and systems, allowing many more materials to enter our field. It does, however, ask that architects be willing to step into unknown territory and let these materials teach us lessons about how things work. ■

Develop new perspectives for our future.
Enter the global Holcim Awards competition
for projects in sustainable construction.
Prize money totals USD 2 million. Apply at
www.holcimawards.org*

*In partnership with the Swiss Federal Institute of Technology (ETH Zurich), Switzerland; the Massachusetts Institute of Technology, Cambridge, USA; Tongji University, Shanghai, China; Universidad Iberoamericana, Mexico City; and the University of the Witwatersrand, Johannesburg, South Africa. The universities define the evaluation criteria and lead the independent juries in five regions of the world. Entries at www.holcimawards.org close 29 February, 2008.

The Holcim Awards competition is an initiative of the Holcim Foundation for Sustainable Construction. Based in Switzerland, the foundation is supported by Holcim Ltd and its Group companies and affiliates in more than 70 countries. Holcim is one of the world's leading suppliers of cement and aggregates as well as further activities such as ready-mix concrete and asphalt including services.

This competition is supported by
Holcim (US) Inc.
St. Lawrence Cement Inc.
Aggregate Industries US

Holcim ST.LAWRENCE CEMENT AGGREGATE

Holcimawards
for sustainable construction

CIRCLE 74 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Technicalities

A Prague stairwell's DNA structure revealed

By David Sokol

When commissioned to design the facade and interior of the Institute of Molecular Genetics for the Czech Academy of Science, the Prague-based firm Studio P-H-A decided to add some bling to biomedicine. Responding to the standard-issue rectilinear volume designed by fellow Czech firm Atelier Ypsilon, architects Jan Sesták and Marek Deyl appended a glittering steel staircase that takes the form of DNA's double helix.

The interior plan of the lab building "is very economical and rational, without any significant centralized space," Sesták explains, so the architects at Studio P-H-A decided to emphasize the interior's best feature: a circulation core topped by three off-the-shelf skylights. "The chief aim was to bring daylight as far as the ground level" of the six-story interior, Sesták says, adding that in the absence of more formal social spaces, daylight would induce resident scientists to gather in the generous stairwell.

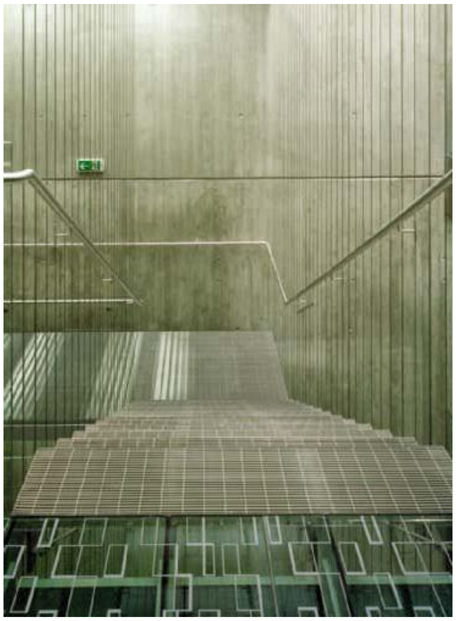
The architects determined that hanging stairs with gridded stainless-steel treads and risers would maximize light penetration. The so-called "poro-grill" was water-jet-cut from sheets and heat-forged. Usually, this kind of stair system is hung with a frame that cradles the steps and keeps feet from landing out of bounds, but Sesták and Deyl eliminated this step of fabrication to avoid the visual obstruction.

Instead, Studio P-H-A secured the perimeter by specifying a proprietary Carl Stahl system of steel cables that runs the entire height of the building. Each 0.2-inch tie rod is attached to the ceiling and to stainless-steel tensioners anchored with chemical adhesive to the reinforced-concrete foundation. With slim stainless-steel handrails connected to the tie rods, the cables effectively serve as balusters. The railings are reinforced via additional attachments to the concrete shaft surrounding the stair. And where the railing trails off into intersecting corridors, bonded glass replaces the Carl Stahl balustrade. "Glass was measured on-site and specially manufactured for each position, since the precision of the reinforced-concrete structure was not sufficient," Sesták points out.

In the spirit of transparency, stair landings of Conex bonded safety glass rest within custom-made steel girders. "We desired to give a 'technological' impression to the entire structure, which would correspond with the exactness of a scientific institution," Sesták says. To invoke the correspondence more literally, the glass landings are printed with an antislip grid in a pattern derived from DNA-sequence-registration-machine outputs.

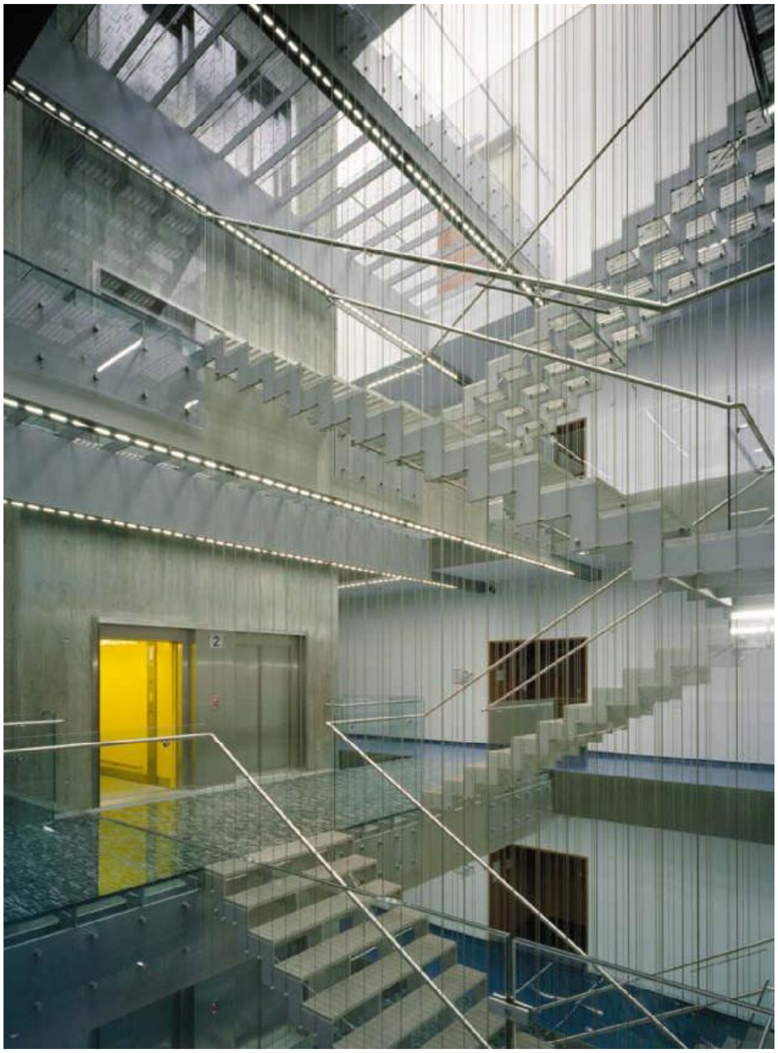
Institute employees began moving into the new building in January. Today, a double-layer Barrisol membrane on the skylights diffuses the intense sun, transforming the light into a pleasant blanket flooding the diaphanous stair. Sesták admits the installation's astounding visual lightness did inspire early feelings of uncertainty among some building users, who were, perhaps, expecting Studio P-H-A's contribution to be as conservative as the new structure containing it, but the employees now embrace it. ■

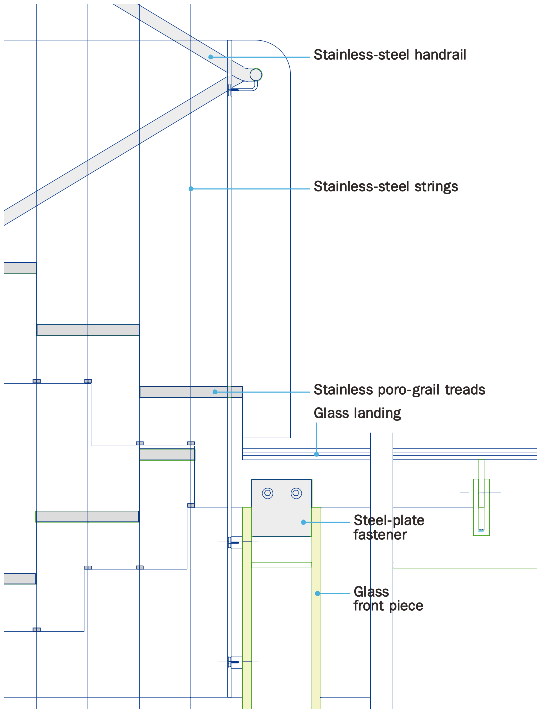
David Sokol is a freelance writer and frequent contributor to RECORD.

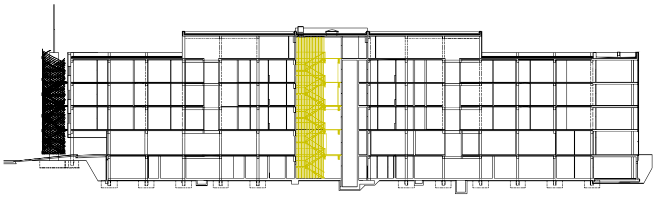


The antislip grid of the glass landings (right) is arranged in the manner of the output from a DNA sequence registration machine.

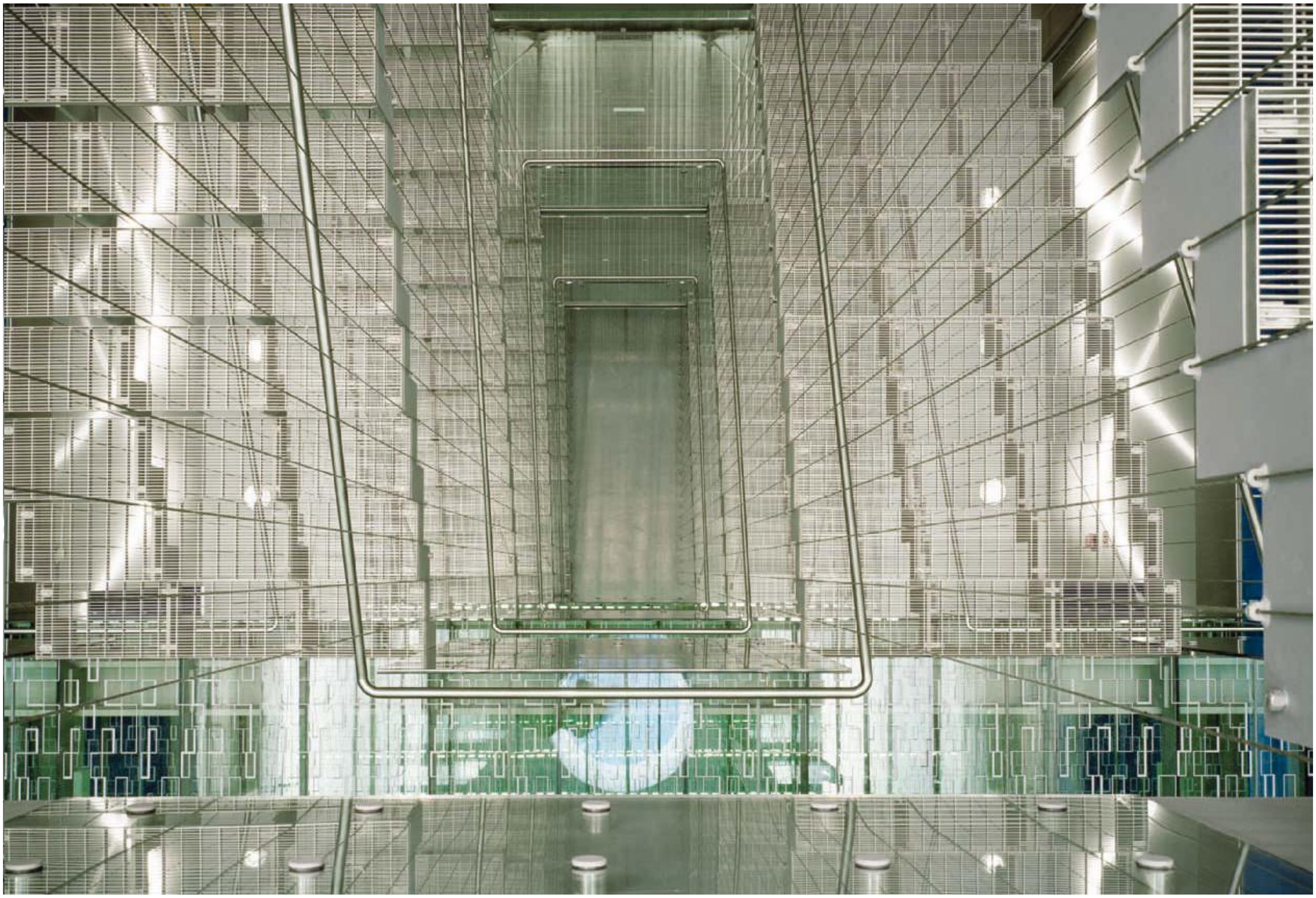
PHOTOGRAPHY: © FILIP SLAPAL




Stainless-steel handrail
Stainless-steel strings
Stainless poro-grail treads
Glass landing
Steel-plate fastener
Glass front piece



The stairwell's stainless-steel wires (right) run the full length of the building and are held in tension to support the stair's structure. This is especially evident in the bird's-eye view below.



New

TOTAL*Flash* Cavity-Wall Drainage System

Slashes Labor Costs Improves Protection.

TOTAL*Flash* by Mortar Net USA is a historic breakthrough for controlling moisture-damage and mold-growth in masonry cavity walls. **All** the "best practices" of today's moisture-control have been ingeniously **factory-assembled** onto handy, pre-cut panels of flexible flashing!

There's no waiting for multiple deliveries, no field-cutting of flashing-rolls, no time spent installing separate components! That's why TOTAL*Flash* installs twice as fast as common alternatives, slashing time & labor by 50% (or more)! **And it's available in sizes for easy use in Renovation/Remediation!**

1. All key components arrive **pre-assembled** onto **5-ft. Panels of Pre-Cut Flexible Flashing.**
2. **Built-In Termination Bar** allows one-man installation.
3. **Built-In Vertical Edge-Dam** sends moisture down to weep system.
4. **Built-In No-Clog Drainage Matte** for unobstructed drainage to Weep Tabs.
5. **Built-In No-Clog Weep Tabs** deliver moisture outside the building.
6. **Built-In Stainless Steel Drip-Edge** releases moisture away from building.
7. **Clearly Specified Lap-Joints** enforce complete coverage.

- **Screws & Adhesive** included.
- **Pre-formed Corner Boots, Stainless Steel Corners, & End Dams** available, for quick installation and foolproof corners.

Integrated
Weep Tabs

Integrated
Drip-Edge
Integrated
Termination
Bar

Pre-Formed
Corners

Integrated
Drainage
Matte

Specified
Lap Joints

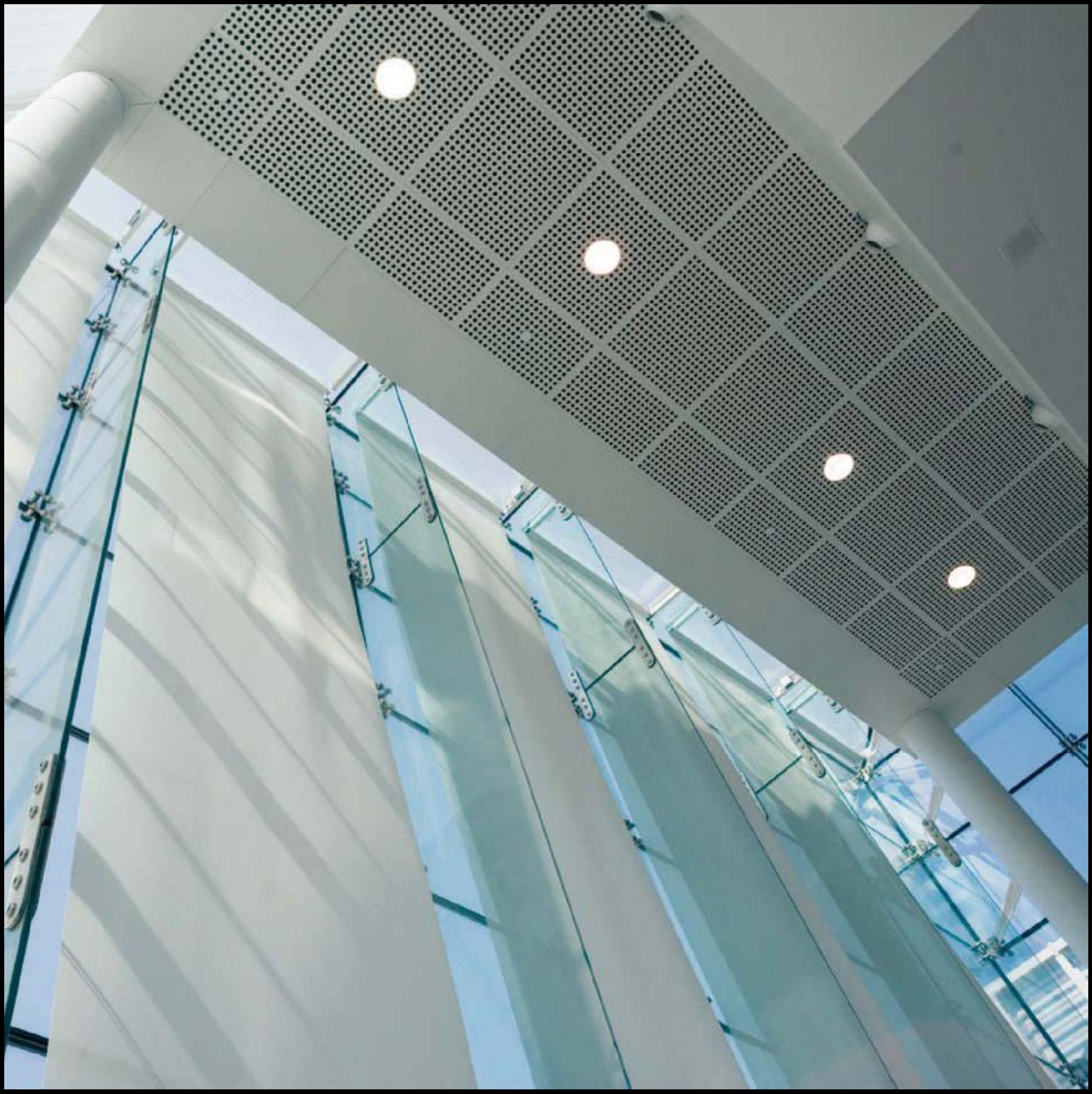
TOTALFLASH
CAVITY-WALL DRAINAGE SYSTEM
by Mortar Net USA, Ltd.

800-664-6638
www.MortarNet.com

ARCAT

CIRCLE 75 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Design with light.



WindowManagement® solutions:

SolarTrac® 3 computer-automated window-shading system.

EcoVeil® sustainable PVC-free solar shadecloth.

Mecho®/5 solar shading system, recipient of the Cradle to Cradle™ Silver Certification from MBDC.

And much more....

MechoShade Systems
The Architect's Choice™

Tel: 718-729-2020 / Toll Free: 877-774-2572
Fax: 718-729-2941 / www.mechoshade.com

West Midtown Ferry Terminal, New York. Architecture: William Nicholas Bodouva + Associates. 50 monumental ElectroShades, 25 feet high. © 2007 MechoShade Systems, Inc. All Rights Reserved. Photography: Jim Roof Creative, Inc.

MBDC GreenSpec®

CIRCLE 76 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

The heart of your building®

KONE

Re-invent the Elevator...

After decades of an industry designing the same old elevator, KONE was the first to challenge the norm. We asked; "Do elevators ***really*** need a machine room?"

KONE introduced the first **Machine Room-Less** elevator design over 10 years ago. This revolutionary concept delivers new **architectural freedom**, presents the best in **sustainability**, eliminates the use of hydraulic oil and provides superior ride quality for low to mid-rise buidings.

With over 125,000 **Machine Room-Less** installations worldwide, KONE has the technical and hands-on expertise to make your project easy to design. We have the tools and information you need, including **web-based, configurable drawings** and **CSI specifications** along with an industry-leading **AIA continuing education program**.

KONE has more exciting innovations to come. For the best in product information and online interactive design tools, visit us at **www.kone.com** or give us a call at **800-956-5663**.

CIRCLE 77 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

EARN ONE AIA/CES
HSW LEARNING UNIT

New Elevator Technology: The Machine Room-Less Elevator

An energy-efficient, space-saving and high-performance elevator

Courtesy of KONE Inc.

KONE Building, 2001, Espoo, Finland / Architect: SARC Architects, Antti-Matti Siikala

By Karin Tetlow

Provided by KONE Inc.

Reportedly dating back to Archimedes, early prototypes of the elevator were installed in the royal palaces of Europe some 400 years ago. But it was not until the mid-19th century that the first modern elevators appeared in New York buildings, its technology driven by the need to move raw materials. Now, elevators are a standard feature for most commercial and public buildings of more than a single floor.

While technological advances were pushing many industries into new eras, elevators did not change significantly beyond a few system innovations. There was little reason why they should because the traditional technology worked—albeit with energy inefficiencies and significant space requirements. But, as manufacturers started focusing on the real costs of energy and hiding valuable real estate square footage inside hoistways and machine rooms, it responded, about 10 years ago, by introducing a new system. Named the Machine Room-Less (MRL) elevator—as the name implies, it does not require a machine room—the new elevator system saves space, is far more energy-efficient and avoids using polluting fluids. As owners increasingly demand energy savings and seek U.S. Green Building Council LEED® certifications, architects would do well to understand the features of the MRL and how to integrate it into their building design. Elevators fall into three general categories: hydraulic, traction and MRL.

Hydraulic Elevator

Passenger elevators generally employ two kinds of hoist mechanisms: hydraulics or roped traction systems. A Hydraulic elevator's function is based on Pascal's law of the incompressibility of fluids (the principle of hydraulics): an above-ground or in-ground piston mounted inside a cylinder is pressurized to raise and lower the car. Hydraulic systems are commonly used in low-rise buildings up to five stories. Speeds rarely exceed 150 feet per minute (fpm).

CONTINUING EDUCATION

Use the learning objectives below to focus your study as you read **New Elevator Technology: The Machine Room-Less Elevator.** To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 173, then follow the reporting instructions or go to construction.com/CE/ and follow the reporting instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

- Compare the features and benefits of both traditional and new elevator technology such as the machine room-less elevator.
- Understand the design requirements for integrating new elevator technology within new and existing buildings.
- Evaluate how different elevator technologies impact energy efficiency and sustainable building design.

Originally the fluid used to drive the piston was water, hence the name hydraulic; today, the fluid is typically an oil-based "hydraulic fluid." There are four major components to the hydraulic system: a tank (fluid reservoir); a pump powered by an electric motor; a valve between the cylinder and the reservoir; and the cylinder.

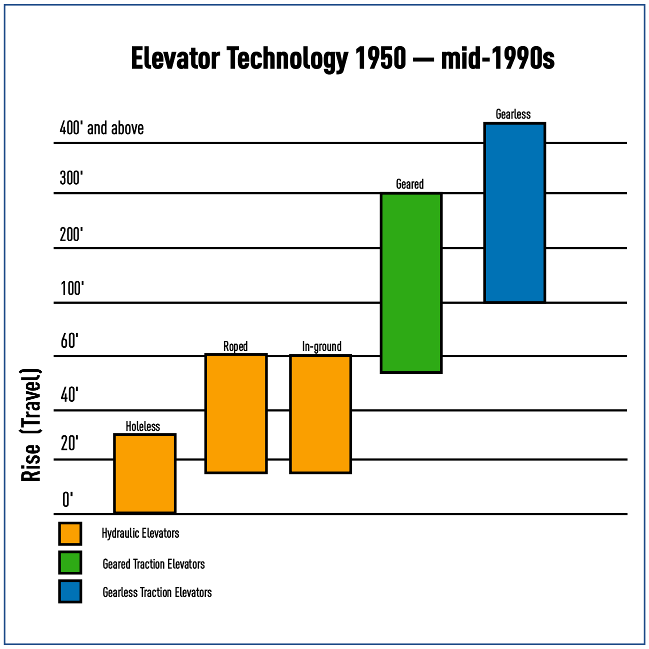
Named the Machine Room-Less (MRL) elevator...the new elevator system saves space, is far more energy-efficient and avoids using polluting fluids.

The pump forces fluid from the tank into the cylinder. As the fluid collects in the cylinder, it pushes the piston up, lifting the elevator car. When the valve is opened, the pressurized fluid will take the path of least resistance and return to the fluid reservoir. When the car approaches the correct floor, the control system sends a signal to the electric motor to gradually shut off the pump and close the valve. With the pump off, there is no more fluid flowing into the cylinder, but the fluid that is already in the cylinder cannot escape (it can't flow backward through the pump, and the valve is still closed). The piston rests on the fluid, and the car stays where it is.

To lower the car, the elevator control system sends a signal to the valve. When the valve opens, the fluid that has collected in the cylinder can flow out into the fluid reservoir. The weight of the car and the cargo pushes down on the piston, which drives the fluid into the reservoir. The car gradually descends. To stop the car at a lower floor, the control system closes the valve again.

There are three types of hydraulic elevators, known as "in-ground," "holeless" or "roped" systems.

An **in-ground elevator** requires a deep hole below the bottom landing because the cylinder goes down into the ground as far as the elevator travels up. Typical in-ground installations use a PVC casing to protect the cylinder from electrolytic and other corrosive chemical actions that could lead to future underground oil leaks.



Basic configuration of an in-ground hydraulic elevator

Holeless elevators are typically used for buildings where it is not possible to drill a cylinder hole. They do not employ a conventional piston/casing arrangement and therefore do not require a hole to be dug for the hydraulic cylinder. In most designs the cab is lifted by a pair of hydraulic jacks, one on each side of the elevator. They are used if a limited amount of travel is required. Sometimes the hydraulic piston (plunger) consists of telescoping steel tubes that allow for increased travel.

Roped hydraulic elevators use a combination of hydraulics and a complex indirect attachment to the cab. Most applications are in existing buildings where drilling a hole for jack assemblies is impractical or more travel is required than would be possible with a holeless direct-acting elevator.

The advantages of the hydraulic elevator include:

- No overhead machine room is necessary
- Elevator hoistway dimensions are optimized
- Loads are distributed to load bearing walls—there are no overhead structural requirements
- Machine rooms can be located remotely
- Installation costs are generally less than those for conventional traction roped systems

The drawbacks of the hydraulic elevator include:

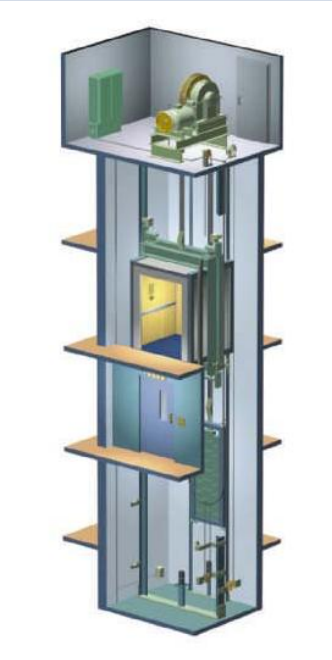
- Machine room needed for pump unit and control system
- Limited speed and performance
- High noise levels as compared to other systems
- Odor from heated oil
- Environmental concerns due to significant use of oil
- Poor ride quality as compared with other systems

Traction Elevator

The most recognizable elevator design is that of the traction elevator. Ropes are attached to the elevator car and looped around a hoist machine with deep grooves in its circumference known as a sheave. The sheave grips the hoist ropes, so when the sheave, which is connected to an electric motor, rotates, the ropes move too. When the motor turns one way, the sheave raises the elevator; when the motor turns the other way, the sheave lowers the elevator.

In gearless elevators, which have traditionally been used for very tall buildings or to achieve exceptionally fast speeds, the motor rotates the sheaves directly, allowing speeds up to 3,000 fpm (35 mph).

In geared elevators, which have traditionally been used for mid-sized office and residential buildings, the motor turns a gear train that rotates the sheave. Mechanical limitations



Basic configuration of a traction elevator

Example comparisons among Hydraulic, Traditional Traction and MRL elevators*

2,500 lb Capacity Application	Hydraulic	Traditional Traction (geared)	MRL (gearless)
Speed (fpm)	150	200	150 - 500
Motor size (kW/hp)	40hp/30kW	22hp	8hp
Typical current values (amp)			
Nominal	57	58	12
Starting	114	105	14
Main fuse size (amp)	70 @ 480V	80	15 @ 480V
Energy consumption (kWh/year)	28,000	30,600	8,600
Thermal losses (BTU)	9,000	9,450	3,700
Oil requirement (gallons)	80	4	0
Control space noise level (dBA)	70-80	65-70	50-55

*Examples of manufacturer configurations

typically limit the speed to 450 fpm. Traditionally, the sheave, the motor and the control system are all housed in a machine room above the elevator shaft. From the building exterior, the machine room typically appears as a box on the rooftop. Other configurations can be utilized that eliminate the need for the overhead machine room by placing components at or near the first landing—a "basement" configuration—or elsewhere along the shaft (or hoistway).

The ropes that lift the car are also connected to a counterweight, which hangs on the opposite side of the sheave. The counterweight weighs about the same as the car filled to 40 percent capacity. In other words, when the car is 40 percent full, the counterweight and the car are perfectly balanced. With equal loads on each side of the sheave, it only takes minimal force to tip the balance one-way or the other.

Both the elevator car and the counterweight ride on guide rails, which run along the sides of the elevator shaft. The rails keep the car and counterweight from swaying back and forth, and they also work with the safety system to stop the car in an emergency.

The advantages of the traditional traction elevator include:

- Fast speeds and efficient performance
- Quiet, smooth ride
- Available for high-rise applications

The drawbacks of the traditional traction elevator include:

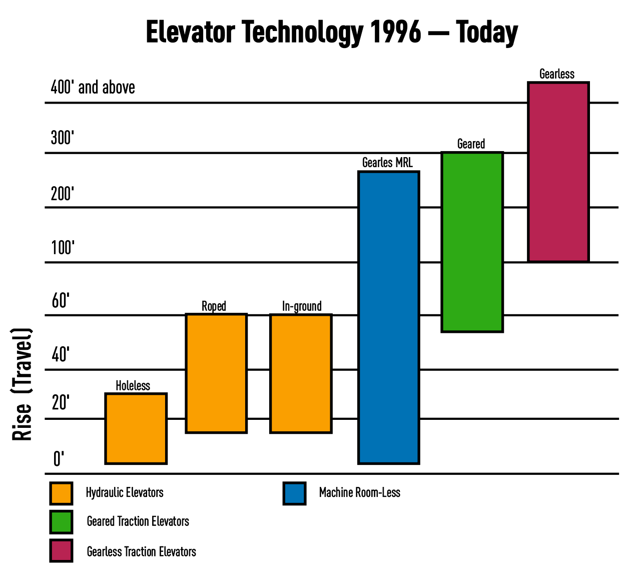
- Higher installation cost
- Significant structural loads at the top of the hoistway
- Elevator machine room required

Machine Room-Less Elevator

Development of the MRL gearless traction machine came about as a result of technological innovations that significantly reduced the size of electric motors used with traction systems. In the mid 1990s, elevator designs began featuring a small permanent-magnet synchronous motor (PMSM) combined with a variable voltage, variable frequency (VVVF) drive. The change reduced the size, weight, heat output and energy consumption of traditional traction systems by up to one-half. The energy savings in comparison to hydraulic systems are even more substantial. The technology was incorporated into elevators with the result that, because of the reduced size of the new motor, a machine room above or adjacent to the elevator hoistway was not required. Instead of placing the machine in a separate room, the motor mechanism could be mounted within the hoistway itself.

This new technology created a cascade of environmental benefits. Not only did the new design lead to a reduced use of both oil and energy for starting and running the elevator—plus the avoidance of potential ground contamination—it also led to more efficient and safe installation techniques and use of valuable interior space. Used abroad for many years, the MRL is the standard product for low to mid-rise buildings in Europe and Asia where the hydraulic system is almost extinct.

The United States has trailed the rest of the world in the adoption of the new Machine Room-Less elevator system. When it was first introduced, there was a slow acceptance rate because of code requirements, since national and local building codes did not address elevators without machine rooms.



In 1998, work started on addressing all safety aspects with regard to the Machine Room-Less elevator type of design. Seven years later, the American Society of Mechanical Engineers (ASME) issued a special supplement to its A17.1 *Safety Code for Elevators and Escalators.* That supplement, named A17.1S-2005, contained all of the pertinent safety elements related to issues involved with MRLs.

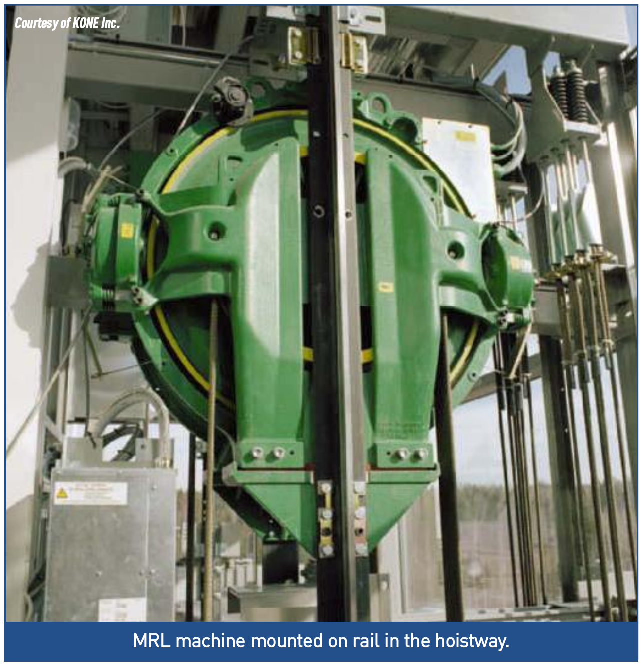
Earlier this year ASME incorporated that supplement into its latest edition, A17.1/CSA B44 - 2007 *Safety Code for Elevators and Escalators.* This 2007 edition covers Canada (elevator codes are now harmonized for all of North America) and covers the design, construction, operation, inspection, testing, maintenance, alteration, and repair of elevators. The American National Standards Institute (ANSI) has approved the ASME elevator code as a national standard.

Before the issuance of national standards, state and local code officials approved MRLs on an individual-case basis. Since then, many authorities have adopted the latest ASME code. With a growing number of MRL suppliers, national standards and increased adoption of national standards by local code bodies, the number of Machine Room-Less elevator installations in the United States is expected to increase dramatically.

Saving Space

Perhaps the most significant feature of MRLs is that they offer architects and designers a lot more design freedom. Less space has to be dedicated to essentials like elevators and their machine rooms, so that more space is left over for productive uses. In addition, building designers have more freedom to create an aesthetically pleasing and operationally efficient building.

Driven by technologies and designs unique to each elevator company, manufacturers have adopted two basic configurations for the placement of the machine. In one configuration, the machine is located in the overhead space above the hoistway. The second configuration features a rail-mounted machine within the hoistway. ■



Courtesy of KONE Inc.

MRL machine mounted on rail in the hoistway.

LEED® Certification: Using Machine Room-Less Elevators Help With Green Certifications

Now under construction and scheduled for delivery in the fall of 2008, the new office building at 1050 K Street is located on one of the most sought after pieces of undeveloped land in downtown Washington, D.C. The 136,000 sq ft, 11-story office block with ground-level retail and parking below is designed to be LEED Gold Certified. The building has four 500-feet-per-minute Machine Room-Less elevators (MRLs), two on each side of the lobby.

Chuong Cao, project designer, and Jason Wright, project architect, with Hickok Cole Architects, Washington, D.C, explained that there were two basic reasons why MRLs were specified rather than traditional traction elevators. The first reason is the energy savings of MRLs. Since the building is expected to achieve LEED certification, it was very important to have systems that promote energy savings. In this way, energy-efficient elevators would contribute to the overall energy savings of the building and therefore add to the prerequisite and credit requirements of LEED.

The second reason concerns building height requirements and the value of penthouse square footage. In the city of Washington D.C., the building height limit is 130 feet. A penthouse may be added that does not exceed 18 feet, 6 inches in height. Typically, it's tough to design a penthouse floor with elevator service using a traction system, says Chuong, because it requires a height overrun on the penthouse floor to accommodate the elevator and, on top of that, additional height for the machine room. (The height of the machine room is included in the permissible additional 18 feet, 6 inches.)

Since MRLs are energy efficient and require no machine room, they were a logical choice for 1050 K, as the building is known. The controllers for each bank of elevators will be located in a closet next to the hoistway on the penthouse floor.

The owner is excited about the technology used by MRLs, reports Chuong. Even though it is not new, it is fairly new to the Washington area and not a lot of buildings have them. For this reason —and the fact that DC has not fully adopted the latest national ASME elevator code—it is taking some additional time for the authority that issues building permits to incorporate the new technology into its approval process, especially given the code requirement for access to the elevator machine room because there is no longer a true machine room.

The interior of the lobby is a gallery of photographs with one side finished in glass and the other side finished in wood. The two cab interiors on each side continue the finishes, so that when the elevator doors open, the entire walls on each side appear as glass or wood. In order to ensure that the weight of the finished cab interiors met requirements, the architects worked closely with the elevator manufacturer to determine which thickness of glass should be specified.

This article continues online at
http://construction.com/CE/articles/0709kone-1.asp

See Quiz on the Next Page

To receive AIA/CES credit, you are required to read the additional online text, which can be found at ***http://construction.com/CE/articles/0709kone-1.asp***
The quiz questions below include information from this online reading.

Program title: **"New Elevator Technology: The Machine Room-Less Elevator" (09/07, page 169).** AIA/CES Credit: This article will earn you one AIA/CES LU hour of health, safety, and welfare credit. (Valid for credit through September 2009). **Directions:** Refer to the Learning Objectives for this program. Select one answer for each question in the exam and fill in the box by the appropriate letter. A minimum score of 80% is required to earn credit. **To take this test online, go to construction.com/CE/**

LEARNING OBJECTIVES

After reading this article, you should be able to:

- Compare the features and benefits of both traditional and new elevator technology such as the Machine Room-Less elevator.
- Understand the design requirements for integrating new elevator technology within new and existing buildings.
- Evaluate how different elevator technologies impact energy efficiency and sustainable building design.

Questions

1. Traditional passenger elevators generally employ the following two different hoist mechanisms:
☐ **a.** Hydraulic and traction
☐ **b.** Geared traction and machine room-less
☐ **c.** In-ground piston and above ground piston
☐ **d.** Machine room-less and gearless traction

2. An in-ground hydraulic elevator typically requires a
☐ **a.** pair of hydraulic jacks.
☐ **b.** machine room.
☐ **c.** counter weights.
☐ **d.** a hole below the bottom landing.

3. A gearless traction elevator operates by
☐ **a.** hydraulic fluid powering a piston.
☐ **b.** a motor rotating the sheaves directly.
☐ **c.** a rotating sheave driven by a counterweight.
☐ **d.** a machine mounted on guide rails.

4. The drawbacks of the traditional hydraulic elevator include:
☐ **a.** cannot operate above three floors.
☐ **b.** high installation costs.
☐ **c.** requiring an overhead machine room.
☐ **d.** limited speed and performance.

5. Safety requirements for Machine Room-Less elevators are
☐ **a.** not yet covered by a national code.
☐ **b.** adopted by all local and state code authorities.
☐ **c.** covered by ASME A17.1/CSA B44-2007.
☐ **d.** exist only in the United States.

6. Elevators powered by a permanent magnet synchronous motor (PMSM)
☐ **a.** require a separate machine room.
☐ **b.** have higher energy consumption than traditional motors.
☐ **c.** require less energy to start than traditional motors.
☐ **d.** use oil.

7. Machine Room-Less elevators
☐ **a.** are rarely found in Europe and Asia.
☐ **b.** require the same space as traction elevators.
☐ **c.** always have the machine mounted on the rails.
☐ **d.** use 40 percent to 60 percent less energy than hydraulic or geared traction elevators.

8. When installing a Machine Room-Less elevator architects should be aware that:
☐ **a.** there are no weight limits on interior cab design.
☐ **b.** all product lines have similar attributes and dimensions.
☐ **c.** the high-horsepower machine requires heavy-duty wiring.
☐ **d.** building requirements differ for different product manufacturers.

9. MRL control rooms
☐ **a.** may be 400 wire feet from the machine.
☐ **b.** may be 100 wire feet from the machine.
☐ **c.** must have their own adjacent room.
☐ **d.** must be integrated in the hoistway on the top landing.

10. MRL machines can be
☐ **a.** supported by beams at the top of the hoistway.
☐ **b.** mounted on guide rails.
☐ **c.** mounted in the overhead space.
☐ **d.** all of the above

Last Name **First Name**
Job Title
Firm Name
Address
City **State** **Zip**
Tel. **Fax**
E-mail
AIA ID Number: **Completion date (M/D/Y):**

Check one: ☐ $10 Payment enclosed. (Make check payable to McGraw-Hill Construction and mail to: Continuing Education Certificate, PO Box 5753, Harlan, IA 51593-1253.) For customer service, call 877/876-8093.

Charge: ☐ Visa ☐ Mastercard ☐ American Express

Card#

Signature **Exp. Date**

Check below:

☐ **To register for AIA/CES credits:** Answer the test questions and send the completed form with questions answered to address at left, or fax to 888/385-1428.

☐ **For certificate of completion:** As required by certain states, answer test questions, fill out form, and mail to address at left, or fax to 888/385-1428. Your test will be scored. Those who pass with a score of 80% or higher will receive a certificate of completion.

Material resources used: Article: This article addresses issues concerning health and safety.

I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.

Signature **Date**

097SPONA

KONE

KONE is a world-leading manufacturer of sustainable, energy-efficient elevators, escalators and autowalks. KONE is a service company known worldwide as a technology leader with the most innovative products and service methods in the elevator and escalator industry.
kone.com

CIRCLE 78 ON READER SERVICE CARD OR GO TO HTTP://READERSERVICE.CONSTRUCTION.COM/READSVAR.ASPX

AIA

Manage
your
Digital Data

The AIA publishes two standard form documents that establish customized protocols for the transfer and use of digital data on design and construction projects: E201-2007™ and C106-2007™.

THESE DOCUMENTS ARE AVAILABLE NOW.

Visit **www.aia.org/arch_record** for more information.

AIA Contract Documents®
THE INDUSTRY STANDARD.

FINESTONE®

colorful.beautiful.efficient.

you depend on it.

tough.economical.lasting.

we stand by it.

BASF
The Chemical Company

EIFS Wall Systems. Coatings. Finishes.
Call 800-221-9255 or visit **www.finestone.cc**

CIRCLE 79 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

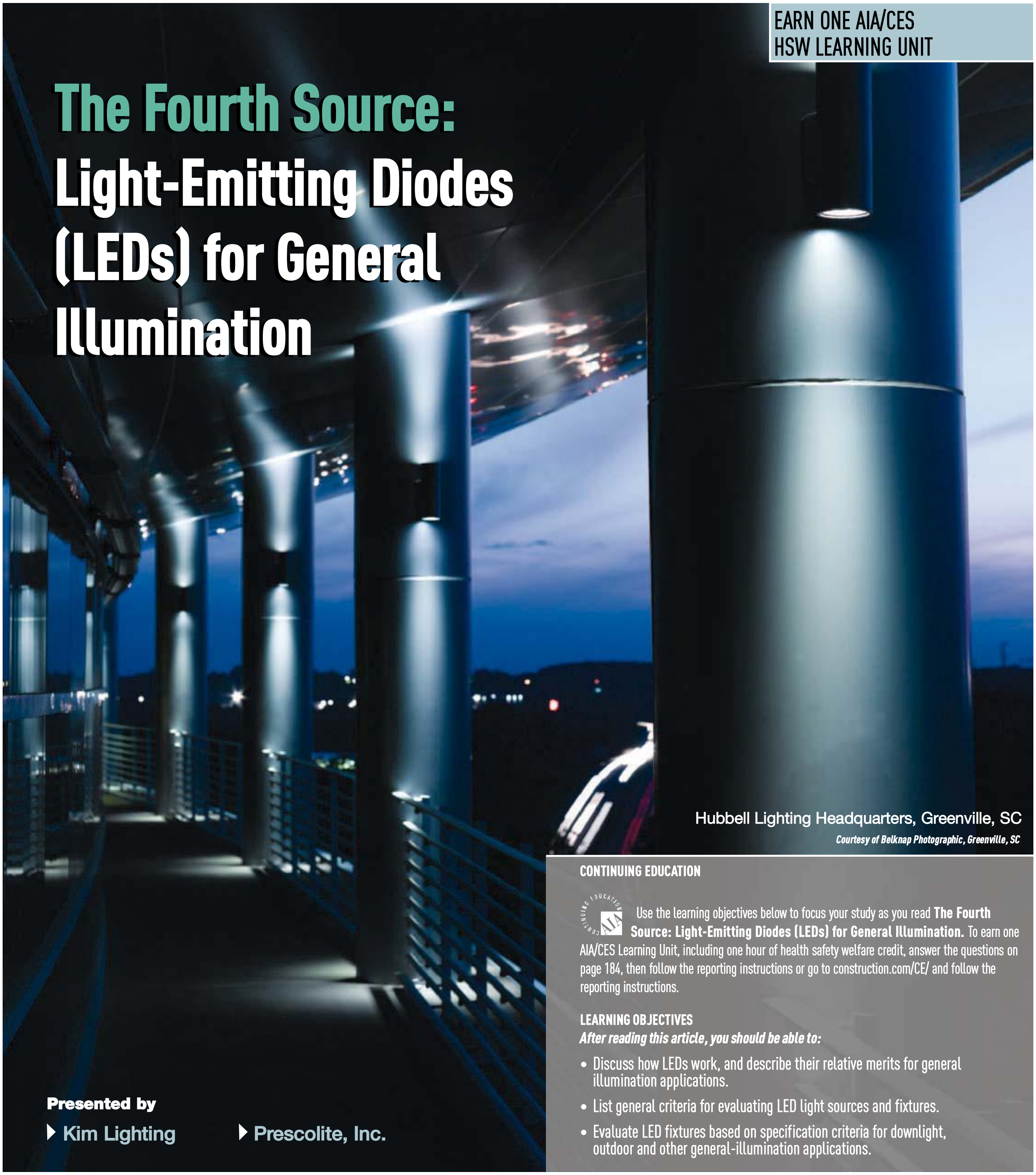
AIA
eClassroom: continuing
inspir tion

AIA eClassroom
continuing inspiration

AIA eClassroom offers continuing education that does more than instruct—it inspires. With our streaming video and audio courses, you can learn from architects like Santiago Calatrava and Michael Graves. Anytime, anywhere, about anything—over 150 courses are available online, from green building and urban design to construction drawings and building envelopes. Log on to eclassroom.aia.org and get inspired.

EARN ONE AIA/CES
HSW LEARNING UNIT

The Fourth Source: Light-Emitting Diodes (LEDs) for General Illumination



Hubbell Lighting Headquarters, Greenville, SC

Courtesy of Belknap Photographic, Greenville, SC

Presented by

- Kim Lighting
- Prescolite, Inc.

CONTINUING EDUCATION

Use the learning objectives below to focus your study as you read **The Fourth Source: Light-Emitting Diodes (LEDs) for General Illumination.** To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 184, then follow the reporting instructions or go to construction.com/CE/ and follow the reporting instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

- Discuss how LEDs work, and describe their relative merits for general illumination applications.
- List general criteria for evaluating LED light sources and fixtures.
- Evaluate LED fixtures based on specification criteria for downlight, outdoor and other general-illumination applications.

The Fourth Source:
Light-Emitting Diodes (LEDs) for General Illumination

By C. C. Sullivan

The light-emitting diode, or LED, is changing before our very eyes. The computer-age lighting source technology was, until recently, considered mainly for decorative and specialty applications. A common refrain was that "LEDs are meant to be seen, not seen by." Yet recent and significant leaps in illumination and operational performance have turned the lighting world upside-down. Over the last few years, lighting designers and architects have begun using LED lighting—also known as solid-state lighting (SSL)—fixtures for general illumination applications, in workplaces, schools, retail buildings and facilities.

LED and fixture manufacturers agree that the newest generation of products is ready for the "prime time" of general illumination. But even companies that have been actively involved in LEDs for many years have only recently released fixtures intended for general illumination: downlights, wall washers, flood lights, and the like. Manufacturers were waiting for the capability to produce fixtures that would be highly performance oriented, providing whiteness, brightness, good energy efficiency, and the power needed for indoor and outdoor use.

LED Fixture Selection Criteria: General Illumination

LED general illumination specification

Critical factor	Selection criteria
1. Product useful life	As with other types of light sources, an LED's light output diminishes over time. For a given application, the "useful life" of a specification-grade lamp or fixture is often defined in terms of *lumen maintenance*, such as the time it takes for the LED to reach 70 percent of its original lumen output.
2. Lumen output	The light output of LEDs can vary by as much as 20 percent for LEDs in the same manufacturing run. (The LEDs are sorted following manufacture into groups of with like performance, in a process known as *binning*).
3. Heat dissipation	LEDs are widely considered to be "cool" light sources, because they don't create infrared energy. But they do create heat, and fixture designs typically include a *heat sink* with metal fins to control fixture temperature—and LED performance.
4. Color temperature	LEDs produce colored light, and since most architectural lighting applications require white light, LEDs create white light by combining LED colors or by using blue or violet LEDs with phosphor coatings. All of the approaches suffer from a *color shift* over time, as the different components and materials degrade at varying rates, changing the light color.
5. Performance data	Performance data for similar LED luminaires may be misleading or hard to compare. The U.S. Department of Energy's Solid-State Lighting Initiative recently tested four luminaires, and found that the efficacies of the luminaires was notably lower than the efficacy values for the LEDs used.

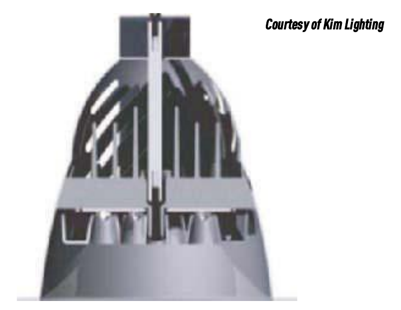
There's no question that LEDs are highly energy efficient. LED-illuminated exit signs consuming less than 5 watts (5W) per sign have been used for years now. And every traffic signal awarded the U.S. Environmental Protection Agency's Energy Star label has been designed to use LEDs.

The challenge—and opportunity—of LEDs

SSL, however, also presents significant challenges to both fixture manufacturers and lighting specifiers. For example, fabricators of LEDs have worked hard to produce consistent light sources with minimal variation in lumen output over the longest period of time possible. Also, LEDs are inherently monochromatic, which explains their success in red exit signs, green traffic lights and in decorative signage. But that also means that LEDs require special formulations and combinations to produce the white light used in most interior and exterior lighting. Today, however, there is broad agreement among lighting designers, fixture makers and LED fabricators that consistent, bright-white light is achievable with good long-term performance and at a reasonable cost.

With this new, highly efficient source suddenly a viable option for general illumination, over the last two years architects have seen new products for interior, exterior and other general applications hit the market. "We just got to point where models have the color, brightness, efficiency and power to deliver good general illumination," says MJ Paul, an executive with Kim Lighting. "LEDs have arrived, and you can now use them for general illumination, not just accent effects and decorative applications."

Not all products meet the basic engineering standards needed to make them work, however, caution lighting designers and engineers (see "LED Fixture Selection Criteria: General Illumination").



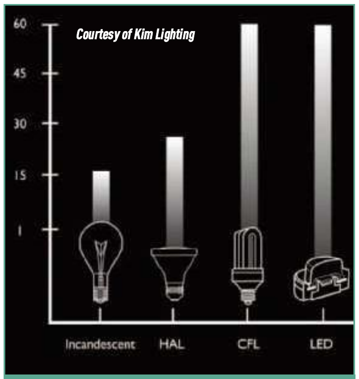
Courtesy of Kim Lighting

Downlights using LEDs incorporate a heat sink—in this example, the metal fins within the fixture housing—to dissipate heat and improve lumen output.

How LEDs work

Better known as an LED, the light-emitting diode is a semiconductor device that converts electricity into light. LED lighting has been around since the 1960s in a limited capacity. Consumers have already experienced the power of LEDs in traffic lights and flashlights. But the world of LEDs is expanding. Lighting designers can do more with these increasingly powerful devices; they are flexible and operate less expensively than traditional lighting.

The most important component of an LED is the semiconductor chip located in the center of the bulb. This chip has two regions separated by a junction. One region is dominated by positive electric charges, and the other is dominated by negative electric charges. The junction, then, acts as a barrier to the flow of electrons between the two regions. However, when sufficient voltage is applied to the semiconductor chip, there is a flow of current, and electrons can cross the junction to the region dominated by positive charges, creating illumination.



LED efficacies, defined as lumen output per watt, are comparable to those for compact fluorescent sources.

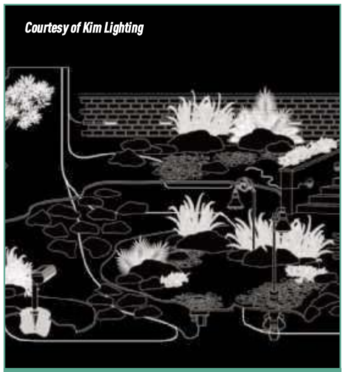
A typical diode is about 1/4-inch in diameter and uses about ten milliamps to operate at about a tenth of a watt. LEDs are small in size, but can be grouped together for higher-intensity applications.

LED fixtures require a driver comparable to the ballast in fluorescent fixtures. The drivers are typically built into the fixture (like fluorescent ballasts) or they are a plug transformer for portable (plug-in) fixtures. The plug-in transformers allow the fixture to run on standard 120-volt alternating current, with a modest power loss of about 15 to 20 percent. Basically, LEDs are just tiny light "bulbs" that fit easily into an electrical circuit. But unlike ordinary incandescent bulbs, they don't have a filament that will burn out, and they don't get especially hot. They are illuminated solely by the movement of electrons in a semiconductor material, and they last just as long as a standard transistor.

LED technology has come a long way since the 1960s. Perhaps most notable is the process by which we achieve white light from an LED source. At first white LEDs were only possible by "rainbow" groups of three LEDs—red, green, and blue—by controlling the current to each to yield an overall white light. This changed in 1993 when a Japanese manufacturer of LEDs created a blue indium gallium chip with a phosphor coating that created the wave shift necessary to emit white light from a single diode. This process is much less expensive for the amount of light generated.

LED fixtures: Characteristics and typical uses

While its current dominance of signage and decorative architectural applications underscores its effectiveness, SSL has met new challenges for general interior and exterior applications. Significant improvements have come in key areas of lighting source performance, including: lumen output; color stability and range; and effective service life. As LEDs have improved in performance over the last several years, illumination engineers and lighting companies have dubbed the technology a viable and promising "fourth source" of electrical illumination, along with fluorescent, HID and incandescent lamps.



Because of their long life and small size, LEDs are being used for small luminaires and hard-to-reach outdoor applications.

General illumination applications incorporating LEDs are a newcomer to the lighting world. But the small size of LEDs and their ability to be mounted in groups and arrays provides flexibility in the shape, size and illumination output of resulting fixtures. In many cases, the LED's size and modular format simplifies the design and specification of a project's lighting system. LEDs can also work with standard wall-mounted dimmers, unlike compact fluorescent lamps (CFLs), according to the U.S. Department of Energy (DOE).

LED fixture development

The relatively new white LEDs, which have useful life spans of 50,000-100,000 hours, have been paired with a recent generation of LED fixtures that are rugged and highly energy-efficient. Industry testing has shown that the true white light they produce is consistent and comparable to other sources, making them a viable source for general illumination.

Over time, the color temperature of the white light created by LEDs changes, usually so slightly as to be imperceptible. But the "color shift" does affect the color temperature and light quality enough so that two LEDs made by the same manufacturer, one used for the first time and the other after tens of thousands of hours of service, would produce a noticeably different quality of light. LED manufacturers minimize the effect of the color shift by inspecting LEDs after manufacture and separating them into batches that have the same visual and performance characteristics. This manufacturing process is called "binning."

Another characteristc of LEDs is that they are highly *directional* as compared with other sources. According to DOE, "The inherent directionality of LEDs is a potential advantage for their use in downlighting applications. If designed effectively, LED downlights could essentially eliminate luminaire light losses."

Examples of Recessed Downlight Performance Using Different Light Sources

		Fluorescent*		Incandescent*		LED**
		26W pin-based CFL	15W R-30 CFL Edison base	65W R-30	100W A-19	Led 15W Downlight
Lamp	Rated lamp lumens	1800	750	755	1700	unknown
	Lamp wattage (nominal W)	26	15	65	100	9 x 1W LEDs
	Lamp efficacy (lumens/W)	**70**	**50**	**12**	**17**	**45**
Luminaire	Luminaire efficiency	50%	90%	90%	50%	unknown
	Delivered light output, initial (lumens)	900	675	680	850	300
	Luminaire wattage (nominal W)	27	15	65	100	15
	Luminaire efficacy (lumens W)	**33**	**45**	**10**	**9**	**20**

SOURCE: U.S. Department of Energy

* Based on photometric data for commonly available products. Actual product performance depends on reflectors, trims, lamp positioning, and other factors. Assumptions available from PNNL.

** Based on one commercially-available product tested. Other LED-based downlights may differ. Lamp efficacy for the LED product refers to the manufacturer listed "typical luminous flux" of the LEDs used. Luminous flux of the 9-LED array is not known.

Regardless of *directionality*, however, LED sources also need to provide enough light to the target location or object, a measure of the total luminous flux incident on a surface per unit area called *illuminance*. Second, that illuminance must be delivered in a reasonably energy-efficient way, a characteristic ratio known as *efficacy* that measures the lumens provided at the target or task area to the number of watts needed to achieve that light level. The DOE compared typical light output and efficiency of residential-style fluorescent and incandescent recessed downlights and an LED downlight, and found the LEDs to be surprisingly efficacious (see Chart on p. 179).

The reason LEDs are so energy-efficient is explained by how they produce light. Conventional light-emitting processes involve generating excess heat or exciting gasses to obtain effective light levels. These processes waste significant energy because a large portion of input electricity is not directed toward producing visible light. LEDs, on the other hand, produce light through a nontoxic chemical interaction that generates very little heat. In this way, a much higher percentage of the electrical demand is utilized toward light production, considerably reducing overall power consumption.

GRAND BALLROOM

Courtesy of Prescolite, Inc.

For general downlighting, as at the Duke Energy Center in Cincinnati, OH, fixture specifications must account for the inherent directionality of LED sources.

Taking advantage of the directionality and energy efficiency of LEDs, manufacturers of lighting fixtures and systems have identified numerous suitable applications, including some that are ideal for LED sources, and have created fixtures to serve those niches. New LED fixtures for general illumination applications now include direct and indirect products including:

- **Indoor architectural lighting**, including downlights, wall washers, accent lights, cove lighting, pendants, wall sconces, desk and workstation task lamps.

- **Outdoor decorative and architectural lighting**, including landscape and path lighting, floodlighting, area and roadway fixtures, wall-mounted and step-mounted products, as well as decorative pole-mounted and canopy-mounted models.

LED light sources require unique attributes in fixture designs, including special componentry and materials, as well as installed performance. Two examples—one for interior and one for exterior lighting—illustrate these special needs.

LED downlights. The LED downlight provides a useful example of these special considerations in fixture design and performance, characteristics that merit close attention by architectural designers and specifiers. For example, for interior downlighting, most SSL products group together multiple LEDs into clusters. Set within a relatively small downlight package, the LEDs create significant heat. Effective thermal management within the fixture is critical for maintaining light output. This is especially important in interior spaces with insulated ceilings. If the heat is not adequately handled, the rising temperature of the LED device will cut light output, as well as the effective life of the fixture.

In terms of lighting system design, LED downlight products vary significantly in terms of delivered light output. Some models deliver only about half the light output of downlights using 65W R incandescent or 15W reflector CFLs, according to the DOE. This may mean that the designer includes more downlights on the reflected ceiling plan, or looks for more efficacious LED sources. LED sources and fixtures are improving rapidly, however, and several new models already compete favorably with traditional light sources for interior downlighting applications.

As far as energy efficiency and lumens-per-watt efficacy, LED downlights already meet or exceed such rigorous standards as California's Title 24 and EPA's Energy Star program. Luminaires may be rated for standard efficacy (typically 25-35 lumens/W) or high efficacy (typically 40-55 lumens/W or greater). In some cases, the fixtures contribute to the certification of buildings or commercial interiors by the U.S. Green Building Council's LEED® rating system.

In terms of building operations, many fixtures feature LED boards and power supplies that are easy to replace with a screwdriver and other common tools.

Last November, the DOE concluded that "recessed downlighting is potentially a good application for LEDs," as long as the specifier keeps in mind the light output of the selected fixture and heat management of the installed product."

Other interior applications were previously considered unsuitable for LEDs, but new fixtures now allow for the effective use of SSL. For example, wall-washing applications for LED fixtures were not possible due to the source's inherent directional output, which resulted in unwanted unevenness and "hot spots." Now, however, advanced LED arrays and new diode construction allow for broader, more uniform beam spreads with the color rendering and reliability required for wall washing. This is true of luminaires for both interior and outdoor applications.

LED outdoor fixtures. The use of SSL systems for outdoor applications also presents areas of special consideration for the architect, engineer, landscape architect and lighting designer. Because of the LED's long life, they are suited especially well for difficult-to-service outdoor applications. White and colored LEDs can also be interchanged among fixtures for creativity and impact in the landscape and building exterior lighting design. Compared with other lamp sources, LEDs may incur a higher up-front cost, so high-quality fixtures and LEDs with long-rated life spans and high lumen maintenance should be selected.

> ***In outdoor applications, the main advantage of the new LED technology is energy efficiency, as well as long life of the light source.***

Accepted outdoor lighting techniques suggest smaller is better, as long as performance is not compromised. Compact LED arrays that generate comparable lumens per watt compared to traditional sources have been easily engineered into smaller luminaire envelopes that are ideal for landscape and structural illumination. A number of fixtures on the market match LEDs with relatively small luminaires designed for use in aisle, in-grade, accent, wall-wash and path applications.

LED COLLECTION™
OUTDOOR LANDSCAPE LUMINAIRES
Solid State Lighting featuring NEW super bright white LED technology.

SEE YOUR LOCAL LISTINGS FOR AN AGENT NEAR YOU
PRESENTED BY KIM LIGHTING A DIVISION OF HUBBELL LIGHTING, INC.

LED | KIM LIGHTING
Landscape • www.kimlighting.com • 626.968.5666

CIRCLE 80 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Regardless of the light source, nighttime outdoor optics are different from indoor optics. The human eye adjusts to the dark by using more of the eye's rods, which are monochromatic and allow us to see even in dim light levels (scotopic vision), rather than the cones, which let the human eye perceive color (photopic vision). Rods contain a pigment that perceives light only in the green part of the spectrum, while cones can detect red, green and blue areas of the spectrum and distinguish very fine wavelengths. Because scotopic vision is dominant at night, a metal halide light will appear markedly whiter than a sulfur lamp to the human eye. This change in perception occurs in the human eye and cannot be measured, although the Illuminating Engineering Society (IES) is working on a method for measuring this effect.

In addition, because outdoor nighttime lighting is often projected toward the sky and distant background objects in addition to illuminating target objects, it is best measured by candlepower (candela), which measures how much light is produced by the source LED, rather than illuminance, or how much light falls on a target object. For **pathway and egress lighting**, for example, choosing an effective source with a suitable beam spread is important to ensuring wayfinding clarity and safety. Good specifications for egress lighting include broad beam spreads and warm colors, two characteristics that have been made possible only in the latest generations of LEDs.

Specifying LED Lighting: General Recommendations

1. Determine the size of the surface to be illuminated and its distance from the light source.

LED lighting sources are small, so the light can be directed precisely where needed. First, the specifier or designer should define the object or surface to be illuminated, either by measuring the sides or the diameter of a circular area. Second, measure the distance between the light fixture and the object or surface; the closer the target, the less light is needed.

2. Measure the angle (width) of the necessary light beam.

How wide does the light spread need to be to cover the surface area or object? This will determine the approximate optic angle of the fixture. A narrow optic will cover angles up to about 10 degrees, and a medium optic will work for angles of between 10 degrees and 30 degrees. Wider optics are available also, if needed, as well as elliptical and side-emitting optics.

3. Select an LED based on required illuminance.

Using optic angle and distance to the lighting target, designers can refer to many manufacturer's LED catalogs to determine the lumen level, or flux, required to achieve a specified illuminance, or lux, measured in footcandles. (A conference room or office, for example, required an illuminance of 300 lux on work surfaces.)

4. Consider power availability and fixture needs.

In some cases, the designer or engineer will need to provide details on input voltage and the type and number of LEDs per fixture in order to verify the power requirements; in most cases, LEDs require constant current. The specifier may also need to select a heat sink for the luminaire or fixture, which helps dissipate heat. The heat sink is determined based on the number of LEDs and the expected average ambient temperature.

Outdoor lighting designs should also feature consistent and reliable **in-grade fixtures**, which tend to be hard to access and maintain. High-profile placement LEDs have been found to work well as ground-mounted up-lights, offering 50,000 hours or more of lamp life at 70 percent lumen maintenance. The low heat output and durability of recent fixture designs have combined with the power needed to illuminate monuments, trees and architectural elements just as well as traditional sources, whether in spot or narrow flood distributions.

In outdoor applications, the main advantage of the new LED technology is energy efficiency, as well as long life of the light source. These characteristics make LEDs appealing to building owners and managers, a fact that underlies the increasing popularity of LED applications for general illuminating.

The missing link: Standards for performance

While there are significant benefits when it comes to LED and fixture performance, a lack of standards causes some challenges for project design and specification. Designers will find that there are no standards in the industry for how to measure, report, apply, or test LEDs. In turn, there is the possibility of inconsistencies in how lighting manufacturers report performance characteristics. To make smart, safe decisions while navigating through uncharted LED territory, look for the following signposts:

1. Photometry Measurement & Reporting. Lighting manufacturers that have published LED photometry data have followed their own guidelines to do so. The accuracy of their reported data is dependent upon their tendency to make conservative judgments, as it is possible to overstate the light output, especially when conducting relative photometry. The lumen value of an LED source is manually input into a conversion program to create the IES file; it can easily be overstated based on the data provided by LED manufacturers, which may also be overstated. This is due to the amount of tax on lumen output that may happen when the LED is set within the fixture. Poor thermal management, for example, will lower an LED's lumen output from its rated lumen value.

2. Color. There are two ways to create a white LED. The first, which is often costly, is the RGB configuration. This is where controlled currents to the combination of three diodes (that are red, green, and blue) yield a white light. The more cost-effective way to create a white LED light is with phosphor converted blue (PCB) LEDs. PCB LEDs have inherent color variations with certain bins. (Binning is the process an LED manufacturer uses to sort LEDs by characteristics, including color and light output.) The tighter the color range, the higher the cost. The task is to strike a balance between cost and color variation. With respect to color, then, some manufacturers will have higher variances than others.

3. Life. The output of LEDs diminishes over time, so it is critical to know the lumen maintenance for an LED at the stated hours of life. For instance, an LED may survive for more than 100,000 hours, but few manufacturers will state the lumen maintenance for this same amount of time. Others may state 50,000 hours with a particular lumen maintenance, which provides a more realistic and workable expression of LED life. The key: Be mindful that how LED life is presented tends to be the most misunderstood variable regarding performance. ■

This article continues online at
http://construction.com/CE/articles/0709lighting-1.asp

See Quiz on the Next Page

LED

UNEQUALED

Prescolite has been at the forefront of LED evolution in the lighting industry since it began. This is only the beginning.

Contact your local Prescolite representative or visit www.prescolite.com to learn how Prescolite's approach to LED lighting remains UNEQUALED in the industry.

HUBBELL®
Hubbell Lighting, Inc.

prescolite
ABOVE AND BEYOND

CIRCLE 81 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

To receive AIA/CES credit, you are required to read the additional online text, which can be found at ***http://construction.com/CE/articles/0709lighting-1.asp***
The quiz questions below include information from this online reading.

Program title: **"The Fourth Source: Light-Emitting Diodes (LEDs) for General Illumination" (09/07, page 177).** AIA/CES Credit: This article will earn you one AIA/CES LU hour of health, safety, and welfare credit. (Valid for credit through September 2009). **Directions:** Refer to the Learning Objectives for this program. Select one answer for each question in the exam and fill in the box by the appropriate letter. A minimum score of 80% is required to earn credit. **To take this test online, go to construction.com/CE/**

1. True or false: LEDs require combinations or special formulations in manufacturer to produce white light.
☐ **a.** True
☐ **b.** False

2. Important changes observed in LED light sources during their service life include:
☐ **a.** light output increasing over time.
☐ **b.** light color remaining invariable over time.
☐ **c.** light output increasing, and light color remaining invariable over time.
☐ **d.** light output decreasing, and light color shifting over time.

3. LED fixtures require:
☐ **a.** a colored gel to improve color rendering.
☐ **b.** a driver on the power supply similar to the ballast for fluorescent fixtures.
☐ **c.** dimmable ballasts.
☐ **d.** 120-volt alternating current (AC) power supplies.

4. The inherent directionality of illumination from LEDs is a potential advantage for reducing luminaire light losses:
☐ **a.** in downlighting applications.
☐ **b.** in cold-weather applications.
☐ **c.** through energy-efficient fixture housings.
☐ **d.** through fixture heat mitigation.

5. Effective thermal management is important for LED and solid-state lighting (SSL) downlighting products because:
☐ **a.** multiple LEDs are clustered together.
☐ **b.** some fixtures have small housings.
☐ **c.** excessive heat generated within a fixture can decrease light output.
☐ **d.** all of the above.

6. LED lighting is especially well-suited to outdoor applications for several reasons, including
☐ **a.** the fixtures are waterproof.
☐ **b.** they require no maintenance.
☐ **c.** the light sources have a relatively long life.
☐ **d.** they all more creativity than HID lamp types.

7. Indoor lighting is most accurately measured by illuminance, while outdoor lighting is best measured by:
☐ **a.** flux.
☐ **b.** lux.
☐ **c.** candlepower, also known as candela.
☐ **d.** lumens per watt.

8. For general illumination applications, the most useful measure of an LED fixture's life expectancy is:
☐ **a.** the number of hours the light fixture will produce any light.
☐ **b.** the number of hours after which the fixture's light output declines to an unacceptable level.
☐ **c.** lumens per watt achieved upon system installation and commissioning.
☐ **d.** the total lumens of the installed system.

9. The *IESNA Handbook* provides recommendations of light levels for LED applications based on:
☐ **a.** how much light exits the LED fixtures and where it is delivered.
☐ **b.** total lumens produced within the luminaire.
☐ **c.** required lux for application areas.
☐ **d.** U.S. Department of Energy guidelines.

10. Some light sources dim when they are cold; others get brighter. In cold air, for example,
☐ **a.** fluorescent and LED sources dim.
☐ **b.** fluorescent lamps brighten, and LEDs tend to dim.
☐ **c.** fluorescent lamps dim, and LEDs tend to brighten.
☐ **d.** fluorescent, HID, incandescent and LED sources brighten.

Last Name **First Name**
Job Title
Firm Name
Address
City **State** **Zip**
Tel. **Fax**
E-mail
AIA ID Number: **Completion date (M/D/Y):**

Check one: ☐ $10 Payment enclosed. (Make check payable to McGraw-Hill Construction and mail to: Continuing Education Certificate, PO Box 5753, Harlan, IA 51593-1253.) For customer service, call 877/876-8093.

Charge: ☐ Visa ☐ Mastercard ☐ American Express
Card#
Signature **Exp. Date**

Check below:

☐ **To register for AIA/CES credits:** Answer the test questions and send the completed form with questions answered to address at left, or fax to 888/385-1428.

☐ **For certificate of completion:** As required by certain states, answer test questions, fill out form, and mail to address at left, or fax to 888/385-1428. Your test will be scored. Those who pass with a score of 80% or higher will receive a certificate of completion.

Material resources used: Article: This article addresses issues concerning health and safety.

I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.

Signature **Date**

097SPONB

Kim Lighting

MICRO-FLOOD® LED

New advanced LED arrays and new diode construction allow for broader, more uniform beam spreads with the color rendering and reliability required for highlighting outdoor signs, facades, memorials, columns, and other vertical surfaces. Kim Lighting's new Micro-Flood® LED series integrates this advanced technology into a small, inconspicuous fixture profile to offer the most rugged, powerful, compact LED wall-wash luminaire available.

www.kimlighting.com

CIRCLE 117

Prescolite, Inc.

SPECIFICATION-GRADE LED DOWNLIGHTS

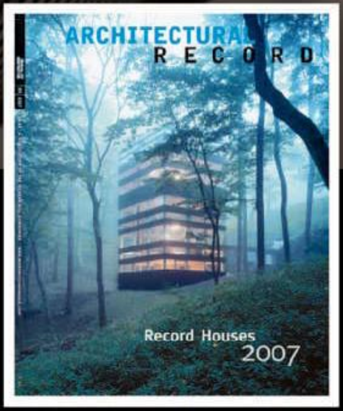
Environmentally responsible LEDs have a long lifeline and use two to five times less power than the typical incandescent bulb, which wastes nearly 95 percent of its energy as heat. Prescolite offers specification-grade LED downlights suitable for a variety of commercial, retail and institutional applications, including outdoor cold environments.

www.prescolite.com

CIRCLE 118

CIRCLE NUMBERS ON READER SERVICE CARD OR GO TO HTTP://READERSERVICE.CONSTRUCTION.COM/READSVAR.ASPX

ATTENTION READERS!



You can now access all ads appearing in *Architectural Record* online at ArchitecturalRecord.com!

All print ads, full page or larger, are available in convenient PDF format by visiting ArchitecturalRecord.com. Just click the "Products" tab to access the ads.

The PDF format allows you to easily e-mail the ads to clients or colleagues. You can also print out the ads or save and file them and use as needed.

Just go to **ArchitecturalRecord.com** and click the "Products" tab.
You'll find all ads in the "Product Ads" link at the top of the page!

McGraw_Hill CONSTRUCTION

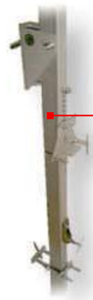
www.architecturalrecord.com

The McGraw·Hill Companies

Not just a pretty face.

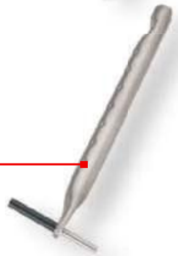
HALFEN natural stone anchors.

Natural stone is always in fashion, whether it´s limestone, granite or marble. Decorative and impressive stone facades create a refined image for the structure, and stand for value retention and quality. HALFEN natural stone anchors offer the same level of quality to the fastening and support of natural stone façades.



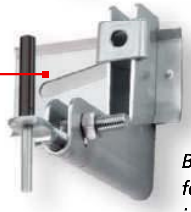
Substructures with height-adjustable support and retaining anchors

Sophisticated and safe
User-friendly adjustable substructures of stainless steel or aluminum minimize heat loss and ensures better thermal insulation. They are ideally suited for large and varying cavities behind the façade. Adjustable anchors connect the natural stone panels to the substructure.

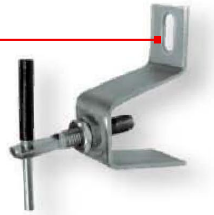


Grout-in anchor for anchoring in brickwork or concrete

Simple and reliable
The HALFEN grout-in anchors allow smaller holes in the substrate thanks to their round cross-section, and can offer maximum dead load capacities in excess of 800 lbs. This anchor type is suitable for projections from 3/4" to 11-3/4". Anchoring can be made in horizontal and vertical joints.



Body anchor for weather-independent wall anchor installation



Strong and flexible
The HALFEN body anchors are adjustable in three dimensions and can accept dead loads up to 293 lbs. They can be loaded immediately after installation and are suitable for projections up to 10-1/2".

Helpful and available
Our knowledgeable representatives are always happy to assist you on the jobsite or at your office. Also, the advisory services of our competent engineering team are just a phone call away. We look forward to working with you on your next successful project.

Many advantages with one result: HALFEN-DEHA provide safety, reliability and efficiency for you and your customers.

HALFEN·DEHA
YOUR BEST CONNECTIONS

Worldwide: www.halfen.com
USA: www.halfenusa.com

SASSENBACH.DE

Halfen Anchoring Systems · Meadow Burke Products · PO Box 547 Converse, TX 78109 · Tel.: 800 323 6896
Web: www.halfenusa.com · Email: halfen@meadowburke.com

CIRCLE 112 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

We’re turning the design world upside down.

RESORT ELEVATORS
POOL ELEVATORS

Abaca Damask Ceiling Carpet at Wynn Las Vegas Spa Court

Design by Roger Thomas for Wynn Design and Development.

Abaca fiber is sustainable, renewable and biodegradable. From the stalk of the abaca tree, abaca fiber comes in 7 natural shades from light to dark and is flame resistant. See our many fine installations of abaca celings, walls, awnings and trim at Wynn Las Vegas.

The
Natural Carpet
Company

310.664.1420 • www.naturalcarpetcompany.com • info@naturalcarpetcompany.com

CIRCLE 82 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

create an instant
environment
Eventscape's custom ceiling solutions
Taylor Photo · photography

The Pier at Caesars Palace · Atlantic City, NJ
Custom framed fabric ceiling panels with projected waves
Eventscape · fabrication | The Rockwell Group · design | Focus Lighting · projection

Infinite flexibility. We will build any structure at any scale, with absolutely no restriction on form or material. Our obsession with craftsmanship and detail guarantees that every structure is as beautiful as it is functional.

eventscape®
create without boundaries™

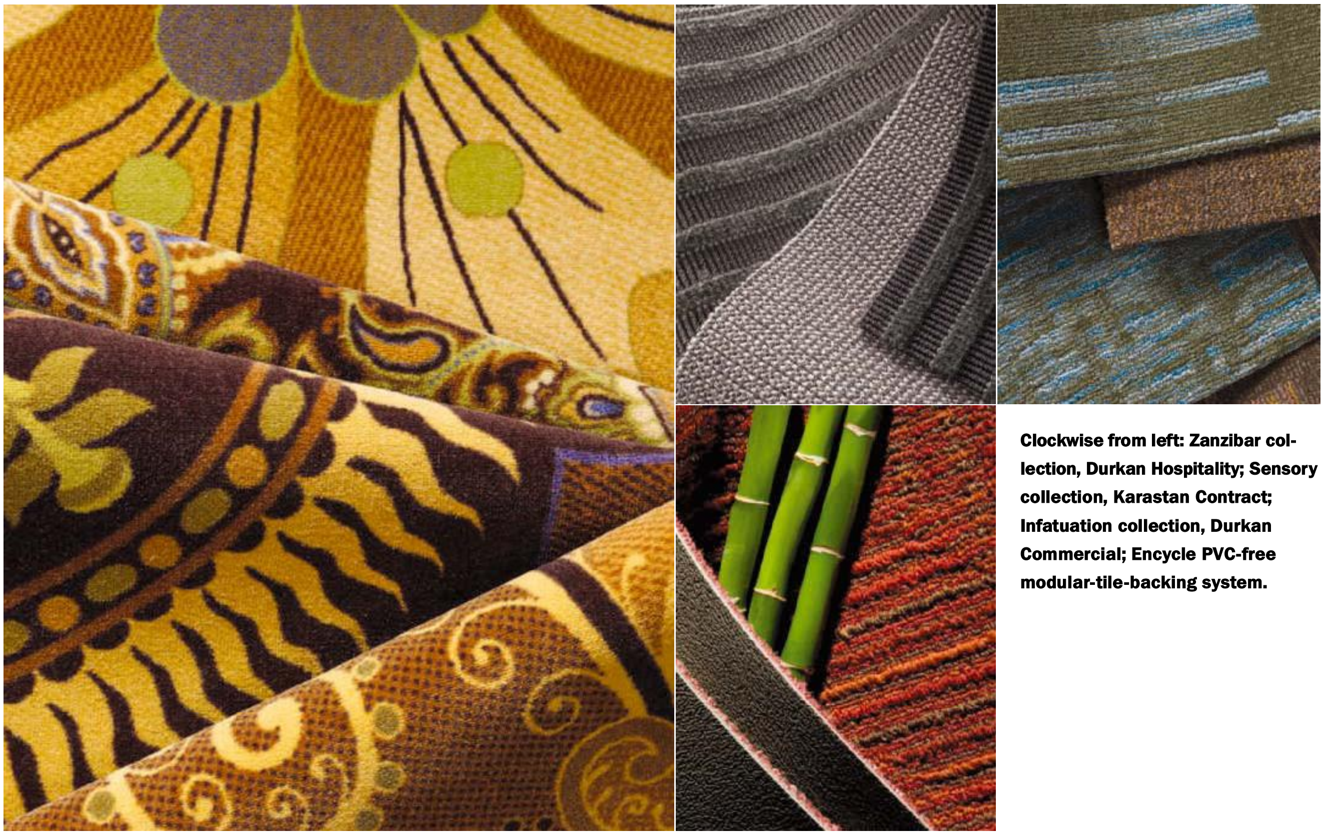
T 416.231.8855 F 416.231.7225 E info@eventscape.net
See creative visions become reality at **www.eventscape.net**

CIRCLE 144 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS

Product Focus

Contract Carpeting

Today's contract carpeting, whether broadloom or modular, is expected not only to focus on **pattern, texture, or color,** but to offer the highest green pedigree possible. A range of new collections, from **bold hospitality to classic corporate,** are featured this month. *Rita Catinella Orrell*



Clockwise from left: Zanzibar collection, Durkan Hospitality; Sensory collection, Karastan Contract; Infatuation collection, Durkan Commercial; Encycle PVC-free modular-tile-backing system.

Carpet brands introduce new textures, colors, patterns, and a sustainable backing system

A parent company of six brands, The Mohawk Group includes Lees Carpets, Durkan Commercial, Durkan Hospitality, Mohawk Commercial, Karastan Contract, and Bigelow Commercial. Each brand introduced new broadloom and/or carpet-tile products at this year's NeoCon trade show in Chicago. While there were too many introductions to feature them all, we present a few of the highlights.

Months of research on the sense of touch and how it communicates inspired architect/designer Shashi Caan to create the Sensory collection, one of three new introductions from Karastan Contract. Spun from high-quality yarns, Sensory plays with various textures and constructions and maintains heavy face weights for greater depth and improved performance characteristics. With Sensory, Karastan blended wool and synthetic fiber for the first time, which helped to enhance the appearance of the collection and bring down the price point.

For Durkan Commercial's Infatuation collection (one of three new lines), the carpet's bold patterns and deep colors, rather than texture, are the main focus. Designed for corporate, retail, and large public-space applications, Infatuation broadloom features three patterns in a palette of 15 colors.

Durkan Hospitality's newest print collection, Zanzibar, is intended to capture the spirit and artistry of the Far East. Ideal for a variety of hospitality interiors, from traditional settings to transitional contemporary layouts, the collection includes 20 styles: three rug elements, one 6' round medallion, nine broadloom patterns of varying scale, six design borders, and one corridor runner.

The Mohawk Group claims that Encycle, its patent-pending, PVC-free modular-carpet-backing system, is the only carpet tile designed with three thermoplastic layers and zero water-based components, enabling complete recyclability back into itself without separation. The new backing also incorporates 35 percent preconsumer recycled content by total product weight and utilizes 28 percent less virgin raw materials. Encycle is not Mohawk's only sustainable venture—several Mohawk Group products are CRI Green Label Plus–certified. The Mohawk Group, Kennesaw, Ga. www.mohawkgroup.com **CIRCLE 210**

For more information, circle item numbers on Reader Service Card or go to **architecturalrecord.com/products/**.

Products Contract Carpeting

◄ Well-dressed floors

Shaw's redesigned Dressed to Kill collection includes 12 tile options and four broadloom patterns and features both Eco Solution Q fiber and EcoWorx tile backing. Both fiber and backing are fully recyclable in a closed-loop, cradle-to-cradle process. Tiles designated as "Vivid" feature bright colors with contrasting accent stripes and are intended for workplace settings; tiles with "Lux" designation are for professional service applications and feature a more monochromatic palette (left). Shaw Contract Group, Dalton, Ga. www.shawcontractgroup.com **CIRCLE 211**

◄ Corporate coverage

The Never Too Much modular carpet line from Designweave includes four styles in nine classic colorways that are ideal for corporate interiors. The tile is made of recycled and recyclable Eco Solution Q fiber and EcoWorx backing. It is also available with EcoLogix recycled cushion backing. As part of Designweave's DesignTEN Quick Ship Program, orders up to 2,500 square yards will ship within 10 business days from credit approval. Designweave Commercial Carpet, Cartersville, Ga. www.designweave.com **CIRCLE 212**

► Bridging styles

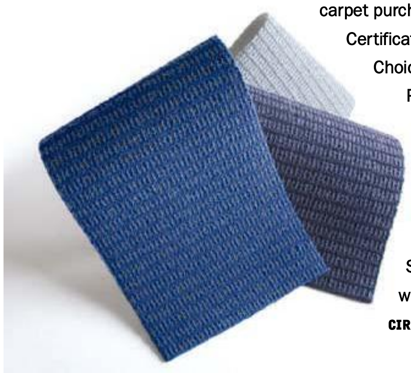
Two coordinating styles with a handcrafted appearance from Bolyu Contract offer color and texture while serving as a bridge to other Bolyu styles. Connex, a multilinear geometric and Sideways, a horizontal stripe, create a harmonic medley of pattern, texture, and color with a modern twist on classic designs. Both are ⅜ gauge, 100 percent ultra type 6.6 nylon. Nine colorways in each style include teals, gray and yellow greens, red umber, and persimmon. Beaulieu Commercial, Adairsville, Ga. www.bolyu.com **CIRCLE 213**

► Layered effects

Milliken's new Intervals Collection uses the manufacturer's exclusive Convergence technology to create a way to layer, pattern, and texture with interesting effects. The collection takes its color cues from Perfect Pitch (offered in a range of 34 colors), a tone-on-tone small geometric texture with a near solid appearance. Soundwave Intervals' one meter standard (3.28') and 20" optional modular format aids in easy transportation and storage, simplified installation, and distribution-free maintenance. StainSmart, Milliken's patented stain- and soil-resistance technology, is standard. Milliken Contract, LaGrange, Ga. www.millikencarpet.com **CIRCLE 214**

▼ Naturally American

Even Keel, a new broadloom carpet from Bentley Prince Street, offers a classic, structured texture for commercial interior environments. Even Keel's 12 colorways reflect the organic, rich hues seen in nature by the first American artisans—from natural corn to forest green to the red of autumn leaves. The product is available certified to the stringent California Gold standard required for State of California carpet purchases and as a Scientific Certification Systems' Sustainable Choice Gold/Environmentally Preferable Product. As a piece dye product, Even Keel is efficient in its manufacture and allows for custom-color minimum orders of only 50 square yards. Bentley Prince Street, City of Industry, Calif. www.bentleyprincestreet.com **CIRCLE 215**



◄ Coming around again

The Acadia Collection is made of high-performance Natiq Envirowork 30 nylon carpet fiber from Nylene. Natiq Envirowork 30 branded Nylon 6 contains a minimum of 30 percent recycled content and is manufactured in a closed-loop, fiber-to-fiber recycling manufacturing process in the longest continuously running depolymerization facility in North America. Products produced with Natiq contribute toward LEED certification and are SCS-certified. The collection features two patterns: Acadia Texture, a 46 oz. tip shear, and Acadia Stripe, a cut/uncut tailored linear pattern. Fortune Contract, Dalton, Ga. www.fortunecontract.com **CIRCLE 216**

For more information, circle item numbers on Reader Service Card or go to **architecturalrecord.com/products/**.

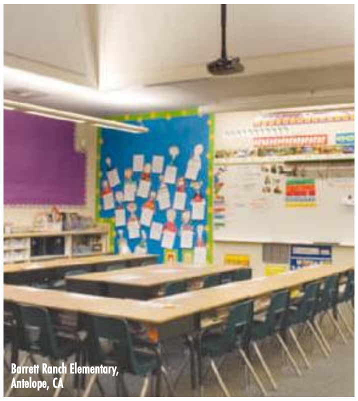
FINELITE'S INTEGRATED CLASSROOM LIGHTING SYSTEM

ICLS

✓ Meets CHPS.

✓ Meets LEED.

✓ Meets SCHOOL BUDGET NEEDS.



WHITEBOARD
A / V MODE
DIMMING

ICLS enhances the learning environment

ICLS meets CHPS & LEED standards

ICLS reduces operating expenses

ICLS is easy to install, maintain & control

The classroom has forever changed, and lighting systems must do more in order for teachers to do more. The Integrated Classroom Lighting System meets national best practices, accommodates today's teaching technology, and drastically reduces monthly operating expenses. Visit **www.finelite.com** to see how this proven lighting system will enable you to easily and affordably design high performance classrooms.

FINELITE
Better Lighting
www.finelite.com

Finelite Tradition. Better Lighting at Affordable Prices. Service. Performance. Energy Efficiency. Innovation

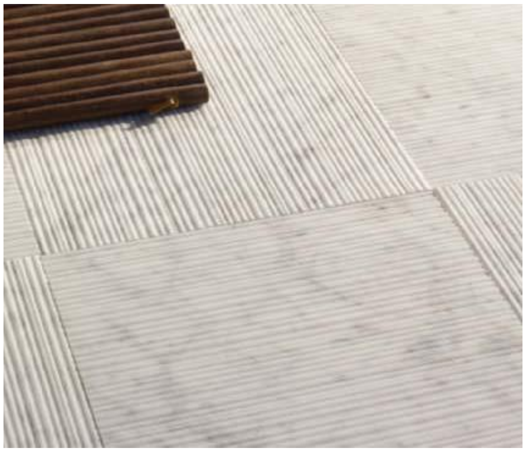
CIRCLE 83 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Product Briefs
ICFF

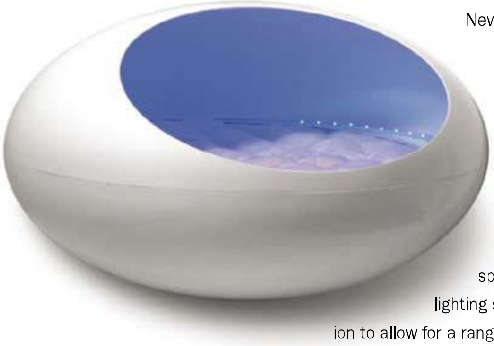
Each May, New York City officially turns into design-central during the **International Contemporary Furniture Fair**. Here are some highlights. *R.C.O.*

► Modern stone bas-relief

Italian marble-and-stone company Alfredo Salvatori's Bamboo collection interprets the refinement of the ancient marble bas-relief tradition into contemporary production. Featuring marble or limestone slabs carved with a series of close and parallel grooves with rounded edges, the collection includes Bianco Carrara (right), Grigio Versilia, Travertino Chiaro, Crema d'Orcia, and Grigio Saint Denis stone. Dimensions are approximately 3.8" square, 3.8" x 11.5", 11.5" square, and 11.53" x 23". The slabs may be used for interior or exterior floor and wall applications. Alfredo Salvatori, Querceta, Italy. www.salvatori.it **CIRCLE 217**



◄ Private environment



Nevada-based architect Alberto Frias exhibited his Transport Perceptual Pod, a "sensual light, sound, and space environment," at the show this year. Originally developed for the architect's thesis project at the University of New Mexico, the Pod is intended to be a commissioned piece of functional art, with each unit signed and numbered. The handmade, oval composite-fiberglass structure can be a bed, a meditation space, or both. It comes with a full spectrum LED lighting system, a sound system, water mattress, and cushion to allow for a range of custom experiences. Starting at $10,000, the pod is available for purchase directly through Frias (www.albertofrias.com) or at Twentieth in Beverly Hills. Twentieth, Beverly Hills, Calif. www.twentieth.net **CIRCLE 218**

► Fabric of record

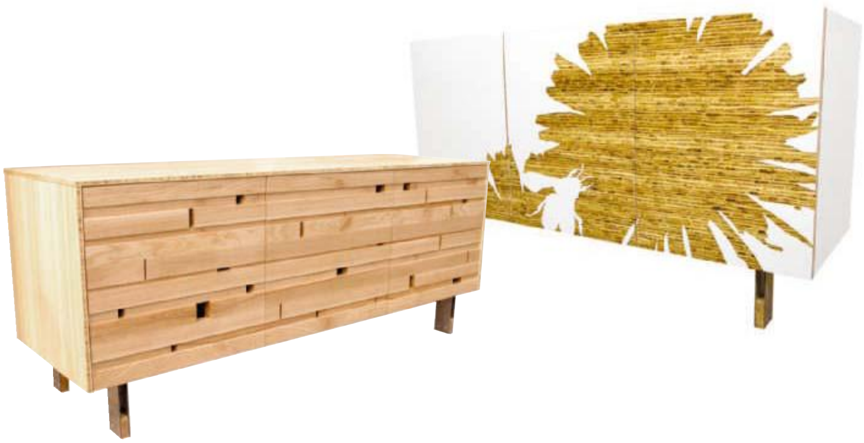
Designtex has introduced Material Matters, the third collection of textiles to come from its ongoing relationship with the Solomon R. Guggenheim Foundation. Modeled on sound-based contemporary artworks in the Guggenheim's collections, the Sonic Fabric material, invented by artist Alyce Santoro, is constructed of 49 percent recycled audiotapes. Giving new meaning to the description "loud fabric," multilayered audio tracks have been recorded into the tape of the fabric and sounds in the weave can be heard by drawing a tape head over its surface. Available in five colors, the fabric reaches a surprising 80,000 double rubs. Designtex, New York City. www.designtex.com **CIRCLE 219**

introducing the
BARCODE WALL LIGHT

additional colors and fixture types from the entire barcode collection available online.

HAMPSTEAD
LIGHTING & ACCESSORIES
hampsteadlighting.com | 888.WE.LIGHT

CIRCLE 84 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



▲ Well-managed furniture line

Philly-based furniture company Iannone has built its 2007 product line around a core material—FSC-certified birch plywood. In addition to being harvested from managed forests, the plywood is formaldehyde-free; finished with a low-emission, UV-cured topcoat; and rotary cut, a process that can yield the most veneer from a log. The furniture exteriors incorporate an array of green materials, including Kirei board (made from the reclaimed stalks of the sorghum plant), bamboo, cork, veneered plywood, and hardwoods from managed forests. Shown here, the Signature 1.0 Console is made of bamboo and solid ash doors (left), and the Dandelion Tall Graphic Console (right) features a Kirei and gloss-white-laminate front. Iannone, Philadelphia. www.iannonedesign.com **CIRCLE 220**

◄ Touchy lighting control

Suitable for both commercial and residential applications, the Vierti architectural touch dimmer from Lutron features adaptive LEDs that brighten when touched to indicate the dimmer is responding and then glow softly when at rest. When at rest, the user can still easily identify the room's light level without the LEDs being fully illuminated. Users touch the highest point of the panel for 100 percent bright light or the lowest point for 1 percent light. In addition to multi-location dimming, Vierti also offers the user audible feedback—a soft click to confirm the user's touch. The dimmers offer interchangeable LEDs in blue, green, or white, and a variety of wall-plate colors and finishes. Lutron plans to begin shipping the product next month. Lutron Electronics, Coopersburg, Pa. www.lutron.com **CIRCLE 221**

▼ Materials maven

Robin Reigi, a material company based in New York City, took home an Editor's Award for Materials at the show. The Robin Reigi booth featured the new Smooth Wall exhibit system by GES Expositions and launched seven new product innovations within the booth itself. Among the materials on display were Brush "tiles" (left) from the Braun Brush Company, tactile decorative elements that can be carved to achieve topographical or modular effects. The tiles can be made in a range of color and fiber choices; custom projects include furniture accents, sculptural icons, and feature walls. Also on display was the Smith and Fong Durapalm brand Palm Woven material (right), a richly textured seamless wall cladding made from reclaimed coconut palm wood. Robin Reigi, New York City. www.robin-reigi.com **CIRCLE 222**

For more information, circle item numbers on Reader Service Card or go to ***architecturalrecord.com/products/***.

Color. Design.
Performance.

With clean, flowing lines in an array of high-sheen colors, HEWI® Nylon custom railings enhance any design. From bold primaries to soft pastels to black and white, the appeal of HEWI is beyond skin-deep. Its structural steel core and non-porous nylon surface provide a lifetime of durability and virtually maintenance-free performance.

Optik
Ferro
inox
CIRCUM
HEWI
d line

HDI Railing Systems

3905 Continental Drive • Columbia, PA 17512 USA
PH: 717-285-4088 • FAX: 717-285-5083
Email: info@hdirailings.com • www.hdirailings.com

CIRCLE 85 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

HOT-DIP GALVANIZED STEEL + PAINT

🟥 **Design Freedom**
Hot-dip galvanized steel can be painted to achieve any look you desire.*

🟩 **Longevity**
The synergistic effect of the two coatings extends the service life for unparalleled corrosion protection.

🟦 **Durability**
The metallurgically bonded galvanized coating serves as an ideal primer providing an impervious barrier for the base steel.

AGA Zn American Galvanizers Association

*With proper surface preparation per ASTM D 6386.

Mission Valley East
Light Rail
San Diego, CA

What will you galvanize?

Visit www.galvanizeit.org/galvpaint to maintain corrosion protection without sacrificing aesthetics.

CIRCLE 86 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

PRESENTING
“The Bow”
Shelf System

More than a pragmatic shelving system, Bow stands alone as functional art.

SH32

Have you ever seen a more elegant way to hang shelves? Bow is simply The Best! 61 7/16” tall, can fit up to 4 shelves 1/4” thick (shelves not included). Bow is made of extruded, machined and bent aluminum rod; Bowstring is Stainless Steel. Finish: Clear Anodized Aluminum.

“FINE ARCHITECTURAL HARDWARE FOR YOUR FINE FURNITURE”®

Doug Mockett & Company, Inc. • Manhattan Beach, CA • 800.523.1269

MOCKETT
DOUG MOCKETT & COMPANY, INC
www.mockett.com

CIRCLE 87 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

ORGANZA

Loomis
CHARLES LOOMIS, INC.
425.823.4560 / 800.755.0471 / www.charlesloomis.com

CIRCLE 88 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Product Resources Literature

Ecofriendly ceiling catalog

Sustainability is the theme of Armstrong's new 276-page catalog of ceiling systems. Green attributes are highlighted on each product page, and the catalog itself is printed with vegetable-based inks on FSC-certified paper. Other features include a photo gallery and nine tabbed product sections. Armstrong World Industries, Lancaster, Pa. www.armstrong.com/ceilings CIRCLE 223

Synthetic millwork lit

FYPON
FYPON

Fypon, a manufacturer of synthetic millwork, has printed a brochure, catalog, and plan book showcasing its expanded William E. Poole Collection of cupolas, balustrades, and other architectural elements. Styles range from Southern Classic to New England Colonial to Palladian Italianate. The company says its products are impervious to decay, insects, and warping. Fypon, Archbold, Ohio. www.fypon.com CIRCLE 224

A guide to ice cooling

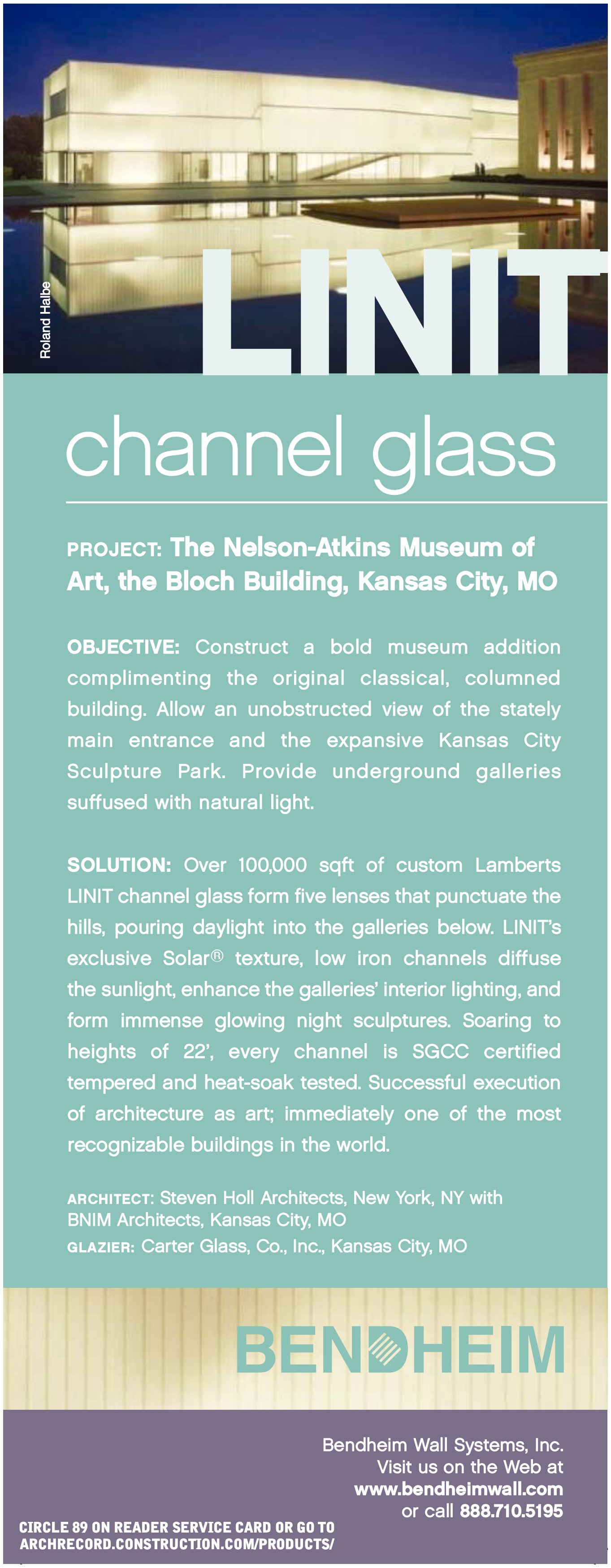
ICEBANK®
Ice Storage Systems
CALMAC
REDUCE COOLING COSTS
SAVE ENERGY
CONSERVE RESOURCES
Ice Storage

A new brochure by Calmac, *Icebank Ice Storage Systems*, describes how ice can be generated and stored at night and then used to cool buildings the following day. The six-page publication also includes a list of companies using the technology and explains how Icebank can help architects earn LEED credits. Calmac Manufacturing Corp., Englewood, N.J. www.calmac.com CIRCLE 225

Bathroom beauties

Hansgrohe has created a 106-page catalog with descriptions of technological advancements and a generous number of full-page color photographs showcasing its bath faucets and shower items in lifestyle settings. The soft-cover catalog also presents silhouette-style images of shower panels, body sprays, wall bars, and other products. Hansgrohe, Alpharetta, Ga. www.hansgrohe-usa.com CIRCLE 226

For more information, circle item numbers on Reader Service Card or go to architecturalrecord.com/products/.


Roland Halbe

LINIT

channel glass

PROJECT: **The Nelson-Atkins Museum of Art, the Bloch Building, Kansas City, MO**

OBJECTIVE: Construct a bold museum addition complimenting the original classical, columned building. Allow an unobstructed view of the stately main entrance and the expansive Kansas City Sculpture Park. Provide underground galleries suffused with natural light.

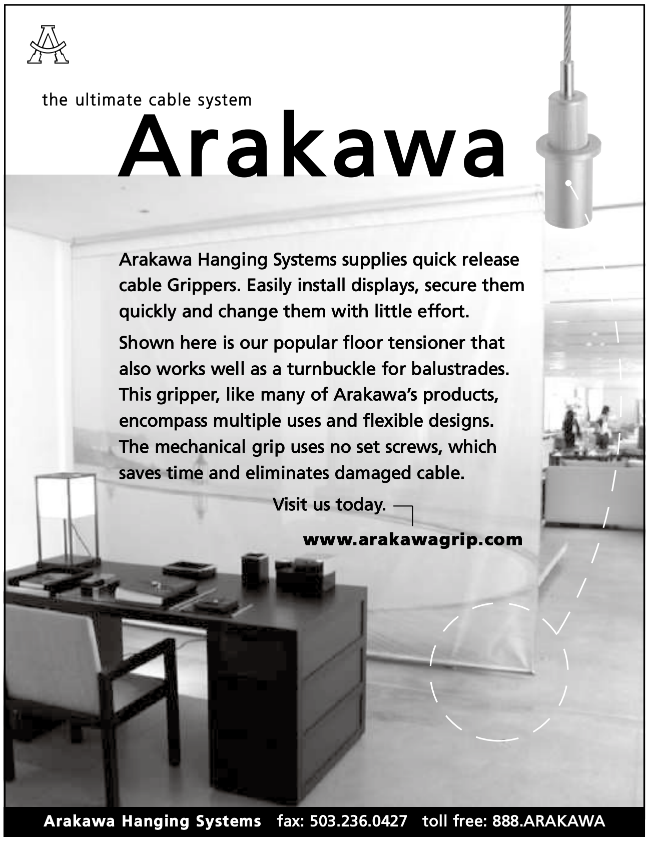
SOLUTION: Over 100,000 sqft of custom Lamberts LINIT channel glass form five lenses that punctuate the hills, pouring daylight into the galleries below. LINIT's exclusive Solar® texture, low iron channels diffuse the sunlight, enhance the galleries' interior lighting, and form immense glowing night sculptures. Soaring to heights of 22', every channel is SGCC certified tempered and heat-soak tested. Successful execution of architecture as art; immediately one of the most recognizable buildings in the world.

ARCHITECT: Steven Holl Architects, New York, NY with BNIM Architects, Kansas City, MO
GLAZIER: Carter Glass, Co., Inc., Kansas City, MO

BENDHEIM

Bendheim Wall Systems, Inc.
Visit us on the Web at
www.bendheimwall.com
or call **888.710.5195**

CIRCLE 89 ON READER SERVICE CARD OR GO TO
ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



Arakawa Hanging Systems supplies quick release cable Grippers. Easily install displays, secure them quickly and change them with little effort.

Shown here is our popular floor tensioner that also works well as a turnbuckle for balustrades. This gripper, like many of Arakawa's products, encompass multiple uses and flexible designs. The mechanical grip uses no set screws, which saves time and eliminates damaged cable.

Visit us today.

www.arakawagrip.com

Arakawa Hanging Systems fax: 503.236.0427 toll free: 888.ARAKAWA

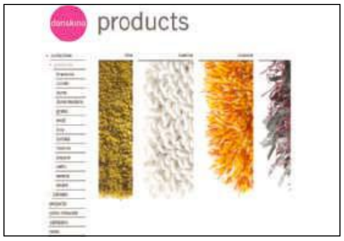
CIRCLE 90 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Club Sugar
Santa Monica, California
Benny Chan / Photoworks • John Friedman Alice Kimm Architects
CASCADE COIL DRAPERY
TM
20 Years

www.cascadecoil.com
800-999-2645

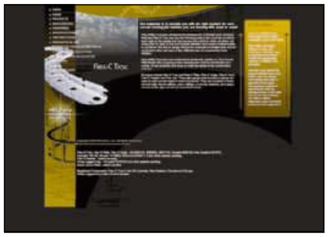
CIRCLE 91 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Product Resources On the Web



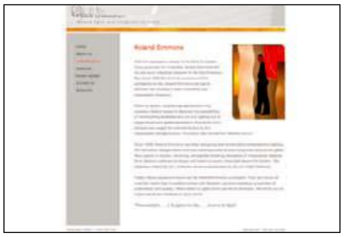
www.danskina.com

Thanks to a simple layout with vibrant images, browsing through the Web site for this Amsterdam-based maker of modern rugs is a pleasure. Visitors can sort through the company's collection by style and color, zoom in on photographs, and download helpful information sheets with technical details and maintenance tips. The project gallery shows Danskina rugs in assorted venues, from a Moroso showroom in Italy to a model apartment in Portugal. The site also features an exceptionally creative store locator.



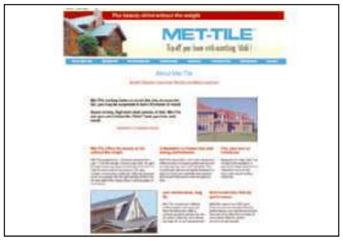
www.flexibilityconcepts.com

This manufacturer of flexible metal tracks has added content to its dense Web site, such as a calculator that determines linear footage for a specified curved application. Other site features include engineering drawings, installation instructions, and a "products in use" photo gallery. Products are divided into three categories—commercial, residential, and deflection—and descriptions are accompanied by drawings showing isometric and alternate views. The site's home page, with flashing images, is very dynamic, but the white text is a bit difficult to read.



www.rolandsimmons.com

The new Web site for Roland Simmons, a contemporary lighting designer, is clean, attractive, and thin on words. Beyond the store locator, highlights include appealing pictures of the designer's three lamp models—the Lumalight, Kalon, and Trovato—in varying sizes, accompanied by a measurement chart that shows how tall the lamps are compared to a human figure. The site also includes an account set-up area and profiles on Simmons and Interfold, which produces the Wyoming-based designer's lamps.



www.met-tile.com

On its newly redesigned Web site, Met-Tile presents ample information about metal-tile roofing panels for residential and nonresidential customers. Features include a photo gallery, extensive list of distributors, detailed technical information, downloadable literature, testimonials, and a roofing profile quiz (to determine if a roof is metal-tile compatible). Visitors can also learn about the company's new "cool roof" line, which meets Energy Star guidelines. The site isn't very stylish, but it is well organized and easy to navigate.

Part of America's Landscape
WAUSAUTILE

Custom Concrete works of art, manufactured by Wausau Tile, are the result of our can-do attitude. The bigger the challenge, the harder we try.

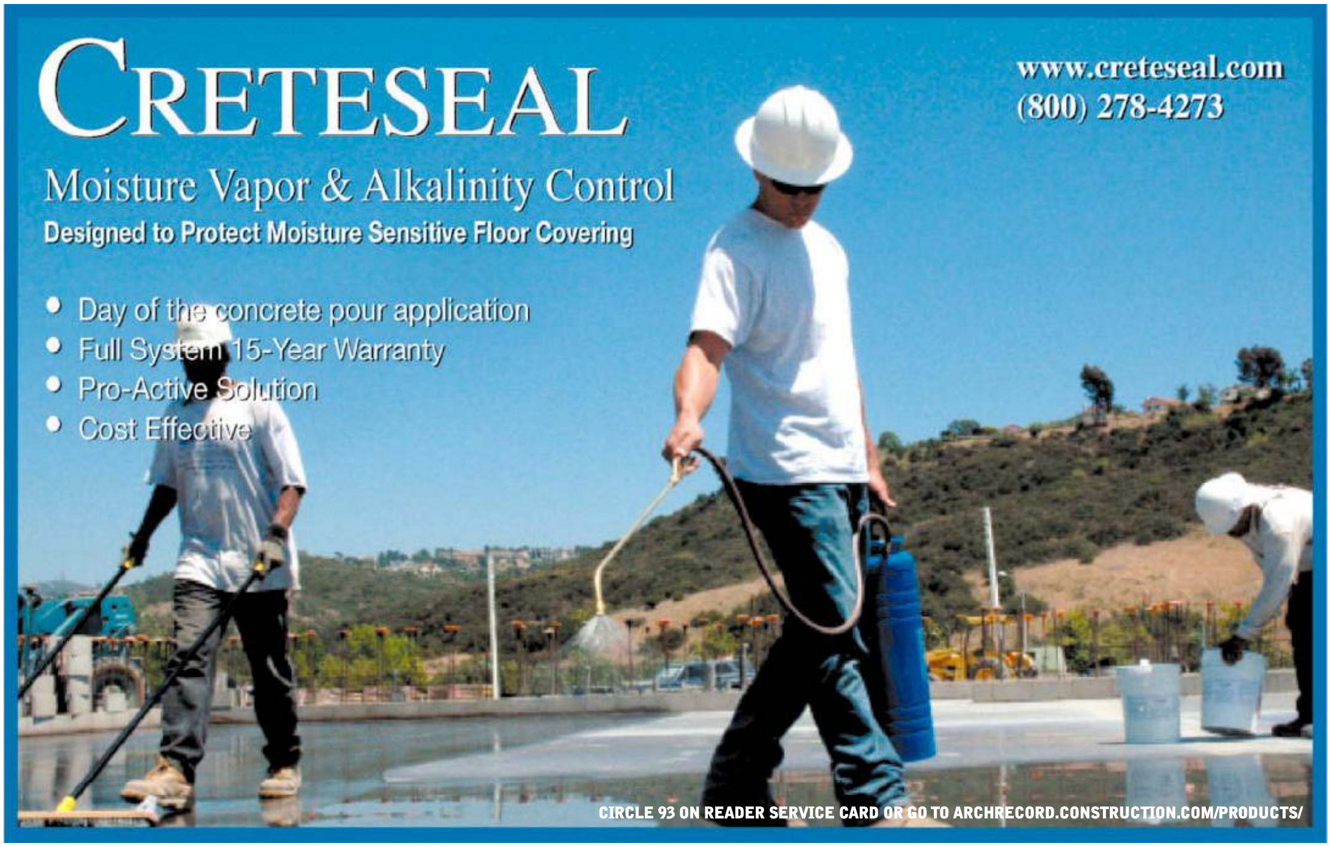
"Responding to the needs of our customers has been the guiding principle in all we do."

Ed Creske, Founder

800.388.8728

www.wausautile.com

CIRCLE 92 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



CRETESEAL

Moisture Vapor & Alkalinity Control

Designed to Protect Moisture Sensitive Floor Covering

- Day of the concrete pour application
- Full System 15-Year Warranty
- Pro-Active Solution
- Cost Effective

www.creteseal.com
(800) 278-4273

CIRCLE 93 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Designing High-Performance Buildings?

Don't forget to make your entrances high-performance, too.

Use FRP flush doors from Special-Lite

Specifying run-of-the-mill entrance systems in your exterior openings can leave holes in your best green designs. But when you choose flush doors that eliminate regular repainting, don't off-gas VOCs, and provide a good thermal barrier, they can help you earn LEED points—and make points with facility owners, too.

Superior performance reduces life cycle cost

Independent lab testing proves Special-Lite flush doors deliver superior thermal and emissions performance. Plus, the durability of our custom entrance systems provides longer life with far less maintenance for the lowest possible lifetime cost—even in the toughest applications.

Children & Schools GREENGUARD Indoor Air Quality Certified

For product literature, test results and specifications, visit our website at: www.special-lite.com/performance.

Special-Lite

www.special-lite.com/performance
1-800-821-6531

CIRCLE 94 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Dates & Events

New and Upcoming Exhibitions

2007 Design Week: Design September
Brussels
September 9–30, 2007
Following the example set by other major cities such as Paris, Berlin, Stockholm, London, and Amsterdam, Brussels has established itself as a stronghold of design in Europe. A milestone event for amateurs, Design September is a festival that combines almost 30 separate events all over the city. Visit www.designseptember.be.

Provoking Magic: Lighting of Ingo Maurer
New York City
September 14, 2007–January 27, 2008
A retrospective of German lighting designer Ingo Maurer's four decades of work, the exhibition will feature site-specific lighting installations designed for particular spaces in the Andrew Carnegie Mansion, home of the Cooper-Hewitt Museum, as well as prototypes and commissioned one-off pieces, and photographs and films documenting Maurer's illumination projects around the world. At Cooper-Hewitt, National Design Museum. Call 212/849-8400 or visit www.cooperhewitt.org.

Historic Ramsey Hill House Tour: Decades of Design: 150 Years of Ramsey Hill Architecture
St. Paul, Minn.
September 16, 2007
This decade-by-decade walking tour of houses in a historic neighborhood will feature the interiors of homes, some of which are located along Summit Avenue, the longest and best-preserved Victorian boulevard in the country. Most of the houses in the area were built between 1880 and 1910 and encompass various architectural styles, from Queen Anne to Tudor Italianate and Richardson Romanesque. Visit www.ramseyhill.org.

Ongoing Exhibitions

Hodgetts + Fung: kï-är'-skoor'ÿ
Los Angeles
Through September 30, 2007
A new site-specific installation in the SCI-Arc Gallery by Los Angeles–based firm Hodgetts + Fung. The exhibition deals with visual perception, evoking traditions dating back to its namesake, chiaroscuro, the Renaissance technique of using light and shade in pictorial representation. Instead of controlling the gallery space using physical, material constructs, *kï-är'-skoor'ÿ* uses a dematerializing process to better understand the subtle nature of spatial perception. At SCI-Arc Gallery. Call 213/613-2200 or visit www.sciarc.edu.

California Design Biennial 2007
Pasadena
Through September 30, 2007
This exhibition is a juried selection of the most original and important design produced in California over the past two years and is the only show that highlights the unique achievements of California designers. Fashion, furniture, transportation, consumer products, and graphic design

THE G.R.PLUME COMPANY

Formed by Nature, Crafted by Man

"Simplicity is the mean between ostentation and rusticity". —Alexander Pope

Known as one of the most technically innovative companies in the wood industry, The G.R. Plume Company delivers distinctive solutions to chronic construction industry problems. G.R. Plume is revitalizing the wood industry, developing innovative, refined solutions that maximize the artistic use of wood fiber while maintaining superior performance qualities. Achieving simplicity demands great discipline. Located in Northwest Washington, The G.R. Plume Company is perfectly situated to take advantage of a vast array of timber sourcing options, from northern British Columbia to Oregon.

G.R. Plume Company 1373 West Smith Road Suite A-1 Ferndale, WA 98248 Tel: 360-384-2800 Fax: 360-384-0335 www.grplume.com

CIRCLE 95 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

will be on display—all selected by a jury of renowned design professionals. At the Pasadena Museum of California Art. Call 323/936-1447 or visit www.caapr.com.

Me, Myself & Infrastructure: Private Lives and Public Works in America
Chicago
Through November 16, 2007
Featuring a New York coffee shop, a comfortable living room, a city bus stop, and a "big box"–type store, this exhibition invites visitors to explore how their decisions—whether it's buying a home in a new subdivision or shopping at Wal-Mart—shape the built environment. At the Chicago Architecture Foundation. Call 312/922-3432 or visit www.architecture.org.

Lectures, Conferences, and Symposia

The 2007 Western Mountain Region Conference: Dreamscapes to Greenscapes
Incline Village, Nevada
September 12–16, 2007
The conference will promote sustainable design and energy conservation in the region. Featured speakers will be Edward Mazria, founder of Architecture 2030, and R.K. Stewart, the national president of AIA. The conference will include an exclusive green trade show and expo with demonstrations. At the Hyatt Regency Resort. For further information on expo booths, call 775/827-4441. For more about the WMR conference, visit www.aiann.org.

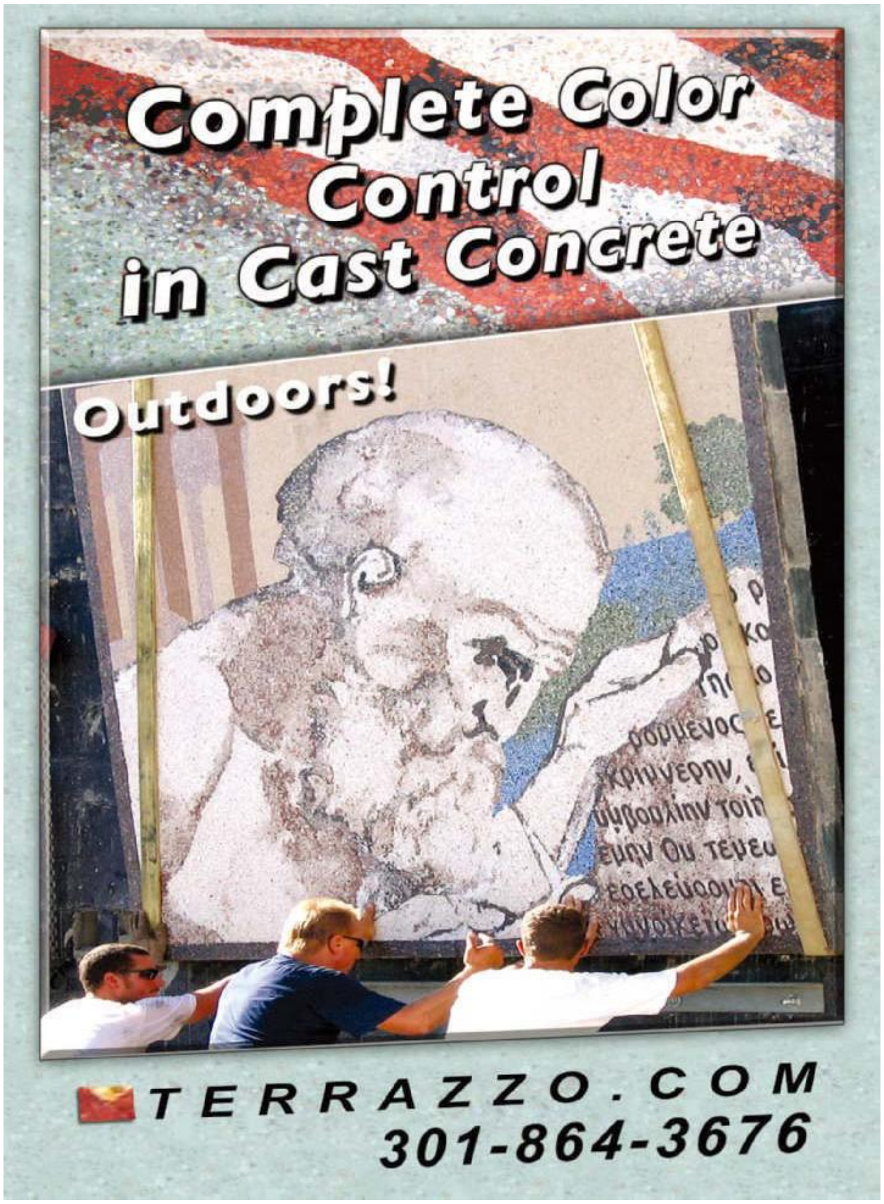
Dwell on Design Conference + Exhibition: Building Community in the Modern World
San Francisco
September 14–16, 2007
All aspects of the built environment will be included, from urban redevelopment projects to co-housing and single-family dwellings, farmers markets to public art programs, as well as diverse social and economic interactions that define the world in which we live. A hands-on marketplace will demonstrate top products and services inspired by modern design. At the Concourse Exhibition Center. Visit www.dwellondesign.com.

The London Design Festival
London
September 15–25, 2007
Now in its fifth year, the festival has become a fixture on the international creative calendar. With more than 200 projects and audiences of 300,000, it has grown to be of great importance in the design world. Festival projects can be found in more than 150 different venues. This year, the Festival's hub is the Southbank Centre. Call 020 7739 3814 or visit www.londondesignfestival.com.

Sustainable Excellence: Sixth International Conference on Courthouse Design
Brooklyn
September 26–28, 2007
A discussion among world leaders in the justice field regarding innovation in planning, design, technology, and research for courthouses. The conference will address a broad spectrum of issues that affect the planning and design of courthouses. At the Marriott. Call 800/242-3837 or visit www.aia.org/aaj.

Competitions

Calafia Sketchbook Design Competition
Deadline: September 1–December 1, 2007
The purpose of developing the Califia Sketchbook Design Competition is to express what life will be

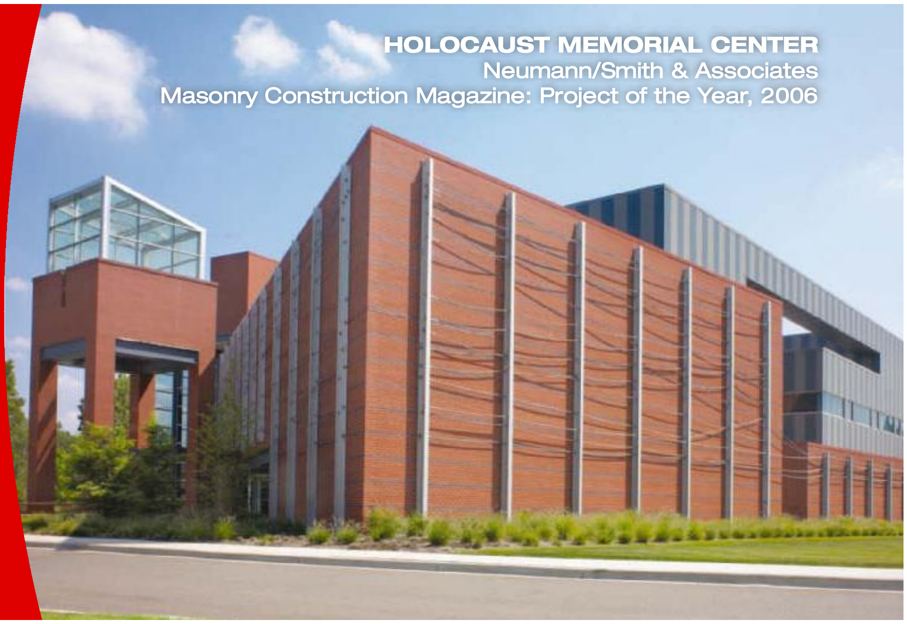


CIRCLE 96 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

AWARD
WINNING

THE EYE CENTER OF COLUMBUS
AMB Development Group
Brick in Architecture: Silver Winner

Belden Brick received eleven awards in the 2006 Brick in Architecture and Brick in Home Building Awards competitions sponsored by the Brick Industry Association. An award-winning manufacturer of the very highest quality brick for more than 122 years, Belden Brick offers architects beauty, versatility, unlimited design potential and enduring appeal. For your next award-winning project, specify Belden Brick.



HOLOCAUST MEMORIAL CENTER
Neumann/Smith & Associates
Masonry Construction Magazine: Project of the Year, 2006

An ISO 9001:2000 Registered
Quality Management System

BELDEN
THE BELDEN BRICK COMPANY

Canton, Ohio / 330-456-0031
www.beldenbrick.com

CIRCLE 97 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

BROMPTONS AT MONUMENT PLACE
WHA Architecture & Planning PC
Brick in Home Building: Best in Class - Multi-Family Design

Natural Light

Introducing the ambia collection. More than 40 new lighting products featuring lenses with embedded textiles, graphics, organic elements, and more. See them all at **manningltg.com**

ambia
collection

Manning Lighting Inc. Sheboygan, WI USA
p 920.458.2184 f 920.458.2491

CIRCLE 98 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

like in Califia, a proposed next-generation ecocity. People worldwide are invited to enter a conceptual sketch conveying their view of "slices-of-life" within Califia, revealing smarter ways of building, powering, and maintaining the urban fabric. Visit www.greencenturyinstitute.org/tellmemore.html.

Design Competition for Creative Preservation of Rudolph's Riverview Buildings

Deadline: September 14, 2007

The Sarasota Architectural Foundation is holding a competition for a design and financial plan to provide alternative use and preservation of Paul Rudolph's historic buildings at Sarasota's Riverview High School, built in 1958, which are scheduled for demolition. The foundation is seeking up to five qualified architect and developer teams with demonstrated experience in creative planning and implementation of projects that include the use of historic buildings. Call 941/365.4723, 415/453-3966 or visit www.sarasotaarchitecturalfoundation.org.

Self-Sufficient Housing/ The Self-Fab House: 2nd Advanced Architecture Contest

Registration Deadline: September 17, 2007

An international summons to architects, designers, and students from around the world, inviting proposals for the construction of self-sufficient dwellings with an emphasis on exploring people's capacity to construct their own homes. Visit www. advancedarchitecturecontest.org.

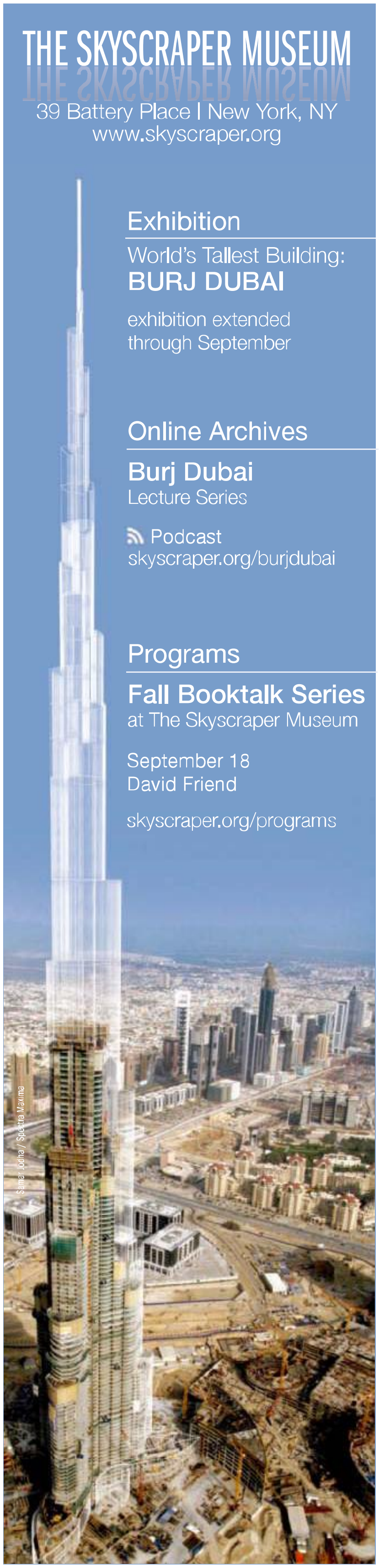
Solar Decathlon 2007
Washington , D.C.
October 12–20, 2007

The Solar Decathlon consists of 20 university teams competing on the National Mall to design, build, and operate the most attractive and energy-efficient solar-powered home. This year, teams have been selected from the United States, Puerto Rico, Germany, Spain, and Canada. On the National Mall. Visit www.solardecathlon.org.

Portland Courtyard Housing Competition: Creating Spaces for Families, Community, and Sustainability in the City

Deadline: October 24, 2007

This competition will explore possibilities provided by housing oriented to shared courtyards as an additional infill housing type for Portland, Oregon. Architects, landscape architects, builders, devel-


THE SKYSCRAPER MUSEUM
39 Battery Place | New York, NY
www.skyscraper.org

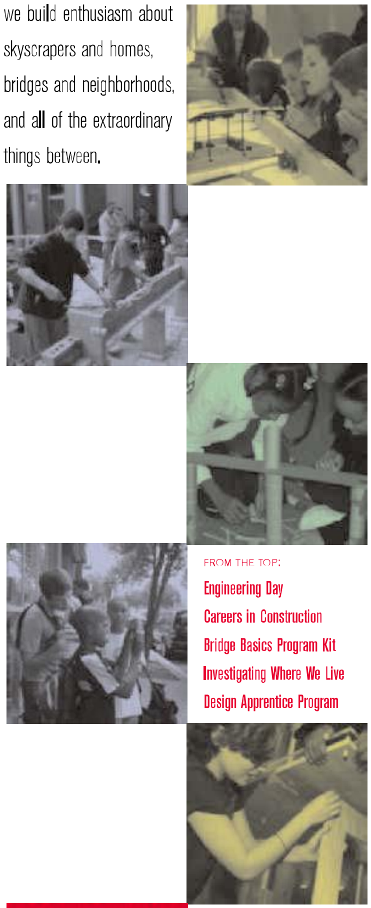
Exhibition
World's Tallest Building:
BURJ DUBAI
exhibition extended
through September

Online Archives
Burj Dubai
Lecture Series
Podcast
skyscraper.org/burjdubai

Programs
Fall Booktalk Series
at The Skyscraper Museum
September 18
David Friend
skyscraper.org/programs

Build With Us

For decades the National Building Museum has inspired children and families to learn more about building, construction, design, and engineering. From our family festivals and our exhibitions, to our school programs and our curriculum kits, we build enthusiasm about skyscrapers and homes, bridges and neighborhoods, and all of the extraordinary things between.



FROM THE TOP:
Engineering Day
Careers in Construction
Bridge Basics Program Kit
Investigating Where We Live
Design Apprentice Program

NATIONAL
BUILDING
MUSEUM

We invite you to join us.

NATIONAL BUILDING MUSEUM
401 F Street NW
Washington, DC 20001
202.272.2448
www.NBM.org

opers, students, and others interested in the competition are eligible. Multidisciplinary teams are encouraged. Visit www.courtyardhousing.org.

The Buckminster Fuller Challenge

Deadline: October 30, 2007

Established to catalyze the vanguard of a global design revolution, the Challenge will award a single $100,000 prize annually to support the development and implementation of a solution with significant potential to solve the world's most pressing problems in the shortest possible time while enhancing the Earth's ecological integrity. Visit www.challenge.bfi.org.

CAE Educational Facility Design Awards

Submissions Deadline: December 7, 2007

The CAE Educational Facility Design Awards program is a marketplace of ideas. Through this forum, the committee disseminates quality ideas on educational-facility planning and design to clients, architects, and the public. This awards program is an opportunity to engage in critical evaluation and experimentation in the context of clients and their needs. Visit www.aia.org/cae.

The American Institute of Architecture Students' (AIAS) 2nd Annual National Student Design Competition

Deadline: November 5, 2007

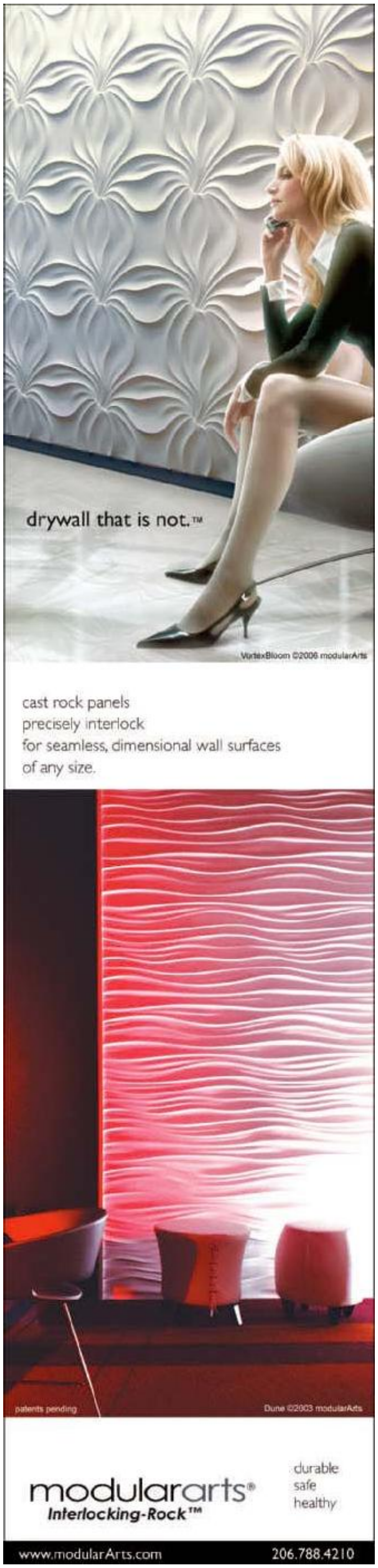
Developed for advanced students, this competition will challenge participants to design a pediatric outpatient rehabilitation center and family support facility utilizing architectural aluminum building products and systems. For more information, visit www.aias.org/kawneer.

Palladio Awards

Deadline: November 15, 2007

This program recognizes individual designers and/or design teams whose work enhances the beauty and humane qualities of the built environment through creative interpretation or adaptation of design principles developed through 2,500 years of the Western architectural tradition. Call 718/636-0788 or visit www.palladioawards.com.

E-mail event and competition information two months in advance to elisabeth_broome@mcgraw-hill.com.



cast rock panels
precisely interlock
for seamless, dimensional wall surfaces
of any size.

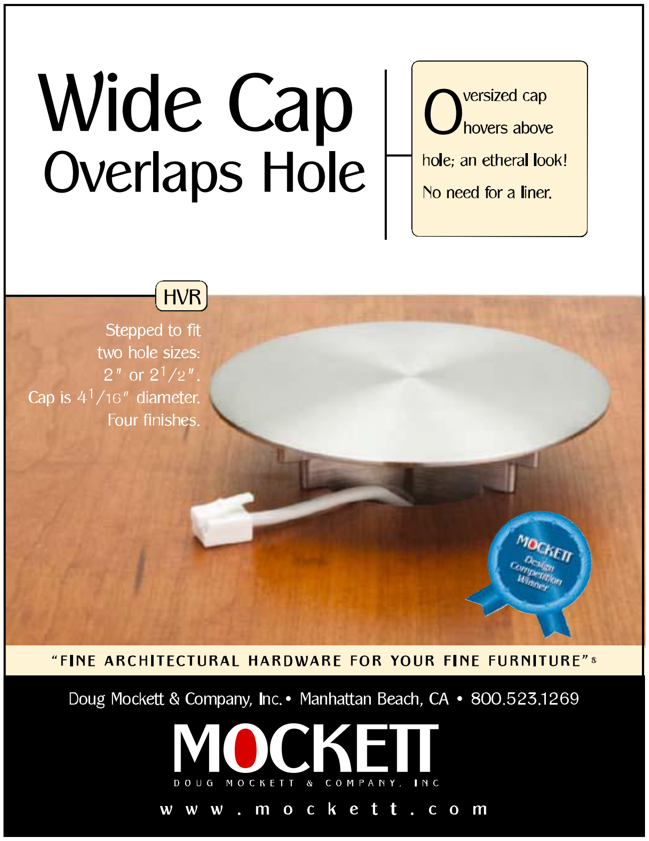
modulararts®
Interlocking-Rock™
durable
safe
healthy
www.modularArts.com
206.788.4210

CIRCLE 99 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

SPARK

modern fires

CIRCLE 100 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/


Wide Cap
Overlaps Hole

Oversized cap hovers above hole; an etheral look! No need for a liner.

HVR

Stepped to fit
two hole sizes:
2″ or 2 1/2″.
Cap is 4 1/16″ diameter.
Four finishes.

"FINE ARCHITECTURAL HARDWARE FOR YOUR FINE FURNITURE"®

Doug Mockett & Company, Inc. • Manhattan Beach, CA • 800.523.1269

MOCKETT
DOUG MOCKETT & COMPANY, INC

www.mockett.com

CIRCLE 102 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

XIX INTERNATIONAL CONSTRUCTION
AND BUILDING EXHIBITION

EXPO CIHAC 2007

16 - 20 / OCT.
Centro Banamex | Mexico City

The largest
Exhibition of
its kind in
Latin America

In the next 5 years, more than 300 billion dollars will be invested in the infrastructure industry in Mexico.

"International Forum of
the Interamerican Construction
Industry Federation"

For more information: expo@cihac.com.mx
www.expocihac.com.mx

Biogen Idec -
Nobel Research Center
Arch: HOK
Wood Cubes

Naturally Beautiful

Combining the warmth and beauty of wood with the finest suspended ceiling and acoustical wall systems.

RULON COMPANY

Manufacturing the World's Finest Suspended Wood Ceilings & Acoustical Wood Wall Systems and Suspended Linear uPVC Ceiling & Canopy Systems

www.rulonco.com 1-800-227-8566 904-584-1400

CIRCLE 103 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

You create your dream.
We provide the comfort.
Guaranteed.

Your comfort begins at
www.unicosystem.com/iah

The Unico System®

Small-Duct Central Heating
& Air Conditioning

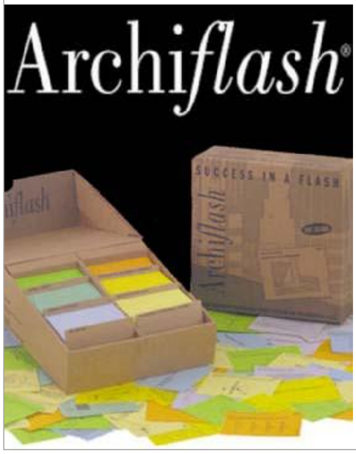
AIA AAF CORNERSTONE PARTNER

CONTINUING EDUCATION AIA

CIRCLE 104 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Pass the ARE 3.1. Study With Archiflash

Nalsa



Get the new 6th Edition. Celebrating over 13 years of success. Prepare for the Architect Registration Exam with Archiflash. Each set contains 1,152 expertly written flashcards covering all six multiple choice tests: Pre-design, General Structures, Lateral Forces, Mechanical & Electrical Systems, Building Design/Materials & Methods, and Construction Documents & Services. Learning is easy with time-saving charts, definitions, diagrams, and multiple choice Q & A. More information than you ever thought possible in an easy-to-use flashcard format. Only $109.95. Individual divisions available for $27.00 each.

800-411-7314
www.archiflash.com

| Circle Reader Service #150

Moulding & Millwork

Architectural Products by Outwater, LLC

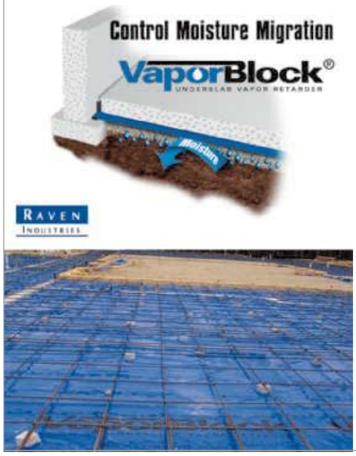
Think Green! The materials that comprise The ORAC DECOR®, The ORAC SURROUNDINGS® and The ORAC MYLINE® Collections of Moulding & Millwork offer inherent benefits and traits that are superior to natural materials including freedom and flexibility of design, ease of use and manufacturing, cost effectiveness, durability, lightweight handling characteristics, dimensional stability, and perhaps most importantly, the ability to replicate all natural materials while allowing for their conservation and anticipated cultivation. Free 1,100+ Page Master Catalog!

800-835-4400
www.outwater.com

| Circle Reader Service #153

Underslab Vapor Retarder

Raven Industries, Inc.



Raven leads the industry with the introduction of Vapor Block® underslab vapor retarder. Vapor Block VB6, VB10, and VB15 are high performance underslab vapor retarders designed to retard moisture migration through concrete slabs. Vapor Block is made from state-of-the-art polyethylene resins that provide superior physical and performance properties that exceed ASTM E-1745 (Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs) Class A, B, and C requirements.

800-635-3456
www.vaporblock.com

| Circle Reader Service #151

Columns, Balustrades & Cornices

Melton Classics

AMERICAN UNITED BANK

Melton Classics provides the design professional with the most comprehensive selection of quality architectural products in the industry, including architectural columns, balustrades, mouldings, cornices, and a wide array of architectural elements. Architectural columns are available plain or fluted, load-bearing or column covers, round or square in fiberglass, fiberglass/marble composite, synthetic stone, cast stone, GFRC, and wood for paint or stain. Melton Classics offers a maintenance free balustrade product ideal for any application.

800-963-3060
www.meltonclassics.com

| Circle Reader Service #154

Concealed Undermount

Accuride International Inc.

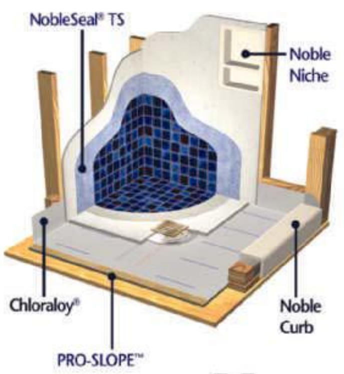
Accuride's Eclipse undermount for commercial or residential installations is available in two options: 3132EC–Easy-Close and 3132SC–Self-Closing. The Eclipse is compatible with face frame or frameless cabinetry, offers a 100-lb. load rating in 30-in.-wide drawers, and precision vertical and horizontal adjustment. Available lengths: 15-in., 21-in., and 12-in. to 28-in. (2-in. increments).

562-903-0200
www.accuride.com

| Circle Reader Service #152

Products for Watertight Showers

Noble Company



Noble N Company

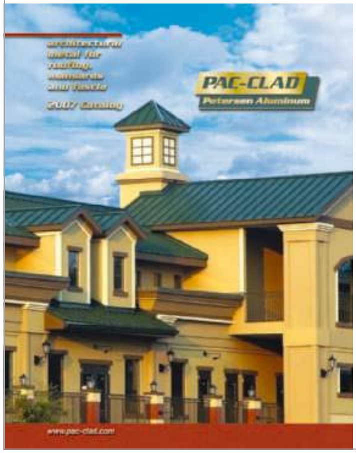
Save time and money and avoid leaks that can result in the growth of mold. Use Noble Company's shower waterproofing products to help ensure a watertight installation. Products include sheet membranes, like Chloraloy® and NobleSeal® TS. Accessories can save time and help ensure quality. Examples include Noble Niches and Curbs and PRO-SLOPE™, a composite that creates the required slope under the waterproofing membrane. For more information visit www.noblecompany.com or call 800-878-5788.

800-878-5788
www.noblecompany.com

| Circle Reader Service #155

Metal Roofing Products

Petersen Aluminum Corporation



Petersen Aluminum Corporation produces a complete line of metal roofing products. Their new 2007 catalog includes several new products: the Prestige and ZT lines of copper and zinc-titanium clad roofing tiles, Column Covers and Composite Panels. Their Cool Colors Palette meets cool roof certification requirements. PAC-CLAD®, a full Kynar 500®/Hylar 5000® paint system, with a 20 year non-prorated warranty, is available in 36 colors. Visit them at www.pac-clad.com or call 1-800-PAC-CLAD. Fax number 800-722-7150 Email bbatkoff@petersenmail.com

800-PAC-CLAD
www.pac-clad.com

| Circle Reader Service #156

Versatile Windows

Fenevations, LLC

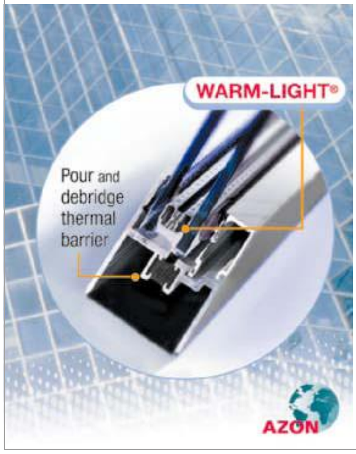
Fenevations manufactures MegaWood, Infinity Bronze, and SteelView windows. Megawood offers fine hardwoods with furniture-grade finishes, combined with heavy gauge bronze or hand welded, aluminum extruded exteriors. Infinity Bronze is a unique thermally broken solid bronze system offering beauty, style and traditional sightlines. SteelView offers stainless steel beauty for contemporary designs.

908-688-5710
www.fenevations.com

| Circle Reader Service #159

Extreme Performance Insulating Glass

AZON USA INC.



Warm-Light® spacer for insulating glass provides a more comfortable interior environment, reduces thermal conductivity and condensation on the glass surface while lowering utility costs. Azon is the global leader in developing technology for the manufacture of thermal barrier aluminum fenestration, commonly referred to as the pour and debridge method.

800-788-5942
www.warmedge.com

| Circle Reader Service #157

Daylighting

Kalwall Corporation

Curtainwalls, Window Replacement Systems and Skylights of every imaginable configuration from a world leader in translucent daylighting with over 50 years of innovation and performance. Renowned for balanced, diffuse natural light, Kalwall fills any space with glare-free, shadow-free, pure Museum-quality Daylighting™ and the most advanced insulating performance. An inviting nighttime glow brings any building to life while preventing direct-beam illumination from escaping the building. Daylight modeling service. Green and LEED®.

800-258-9777
www.kalwall.com

| Circle Reader Service #160

Custom Shoji & Doors

Cherry Tree Design

Consider Cherry Tree Design's stock or custom sized shoji and doors to lend beauty and functionality to a broad range of interior decors. Starting at just $364, Cherry Tree Design shoji is ideal for closet doors, room dividers, pocket doors or patio door coverings. New 96-in. stock shoji is a perfect solution for a high ceiling room or large commercial space. Choose from a variety of styles and durable facing options. Over 90 different shoji packages are offered and include everything you need for installation.

800-634-3268
www.cherrytreedesign.com/ar.html

| Circle Reader Service #158

Movable Glass Partitions

Luconi-usa

Osso is a real biomechanical sculpture, characterized by the peculiar aluminum bar, which has the double function of supporting panels and pieces of furniture. It stands simply and securely, either by putting pressure between floor and ceiling or can be self-supporting in some configurations, offering a wide range of panels and materials for partitions, closets, doors, furnished walls, closets, desks, bookshelves, drawers and containers. This pure, functional element, like a dress, finds space in applications such as homes, offices, retail, kitchens and bathrooms.

310-734-8782
www.luconi-usa.com

| Circle Reader Service #161

Curved Translucent FRP Panel Systems

Major Industries, Inc.

MAJOR INDUSTRIES
GUARDIAN 275° TRANSLUCENT DAYLIGHTING

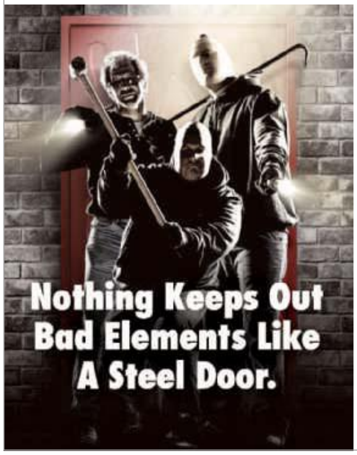
When your daylighting project demands something special, the TransCURVE™ translucent building panel system provides exceptional performance, with the added benefit of a striking, unique appearance. TransCURVE™ glazing panels feature a visually attractive aluminum grid core in several popular patterns, giving panels a refined look while maintaining exceptional strength. TransCURVE™ also features a premium architectural-grade FRP exterior skin that blocks damaging UV rays while transmitting the beauty of natural light.

715-842-4616
www.majorskylights.com

| Circle Reader Service #162

Steel Doors & Frames

Steel Door Institute


Nothing Keeps Out Bad Elements Like A Steel Door.

For strength and security there's nothing like a steel door. The Steel Door Institute sets standards for the performance, care and use of steel doors and frames. The SDI Fact File is the only resource you need to ensure that the steel doors and frames you choose meet the highest standards of all—yours. Request a copy of the SDI Fact File at www.steeldoor.org.

440-899-0010
www.steeldoor.org

| Circle Reader Service #165

Designer Hardware

SARGENT®

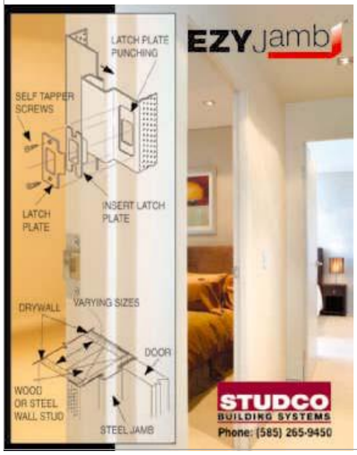
Studio Collection, Metro Elements by SARGENT®: 23 superbly stylized brass and stainless steel door levers, compatible with commercial-grade, mortise and tubular locks, access control locks, exit devices and master key systems. Aesthetically sophisticated door security solutions. Available in 13 finishes.

800-727-5477
www.studiocollection.com

| Circle Reader Service #163

Trimless Doorframe

Studco Building Systems



Studco's EZY-Jamb product is a split-type jamb manufactured from cold rolled steel to produce a strong and secure assembly. EZY-Jamb comes with perforated sides for flush jointing which produces a contemporary flush finish door jamb with clean lines and inconspicuous detail. The jamb comes in two sections that fit neatly together and provides adjustability in wall thickness. Not only has the installer's dream been realized, but the architect's dream has started.

585-265-9450

| Circle Reader Service #166

Distinctive Track Hardware

Specialty Doors

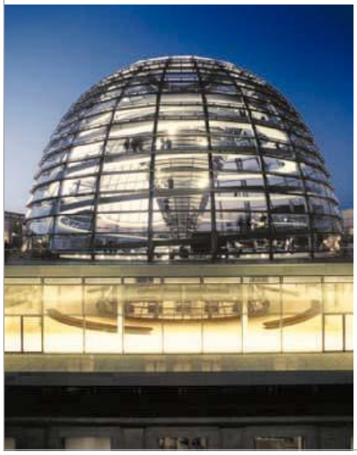
Make a statement with sliding doors. Wide selection of styles, sizes and finishes. Enhance any office, loft, condo or home with hardware that can transform a room. Wide selection of choices for exterior applications as well. From rustic to contemporary and from sliding to folding, their friendly, knowledgeable staff has your solution. For old-fashioned service give them a call at 866-815-8151.

866-815-8151
www.barndoorhardware.com

| Circle Reader Service #164

Steel Curtainwall Systems

Technical Glass Products



Architects and designers now have a better way to incorporate large expanses of glass in building designs. European-designed SteelBuilt Curtainwall™ Systems from Technical Glass Products are strong and slim, allowing larger spans of glazing than aluminum framing and increased ability to bring natural light indoors.

800-426-0279
www.tgpamerica.com

| Circle Reader Service #167

TO ADVERTISE: Contact Elise Rutkowsky
T: (609) 426-7738 / F: (609) 426-7136
elise_rutkowsky@mcgraw-hill.com

Doors for Interior Architecture

Woodfold Mfg., Inc.

Some will say that nothing is more beautiful than wood. Woodfold Mfg., Inc. would agree. Woodfold Mfg., Inc. custom made accordion and roll-up doors (available in hardwood and non-hardwood finishes as well) are both functional and beautiful. Woodfold Mfg., Inc. has models available for use as sight, security, and acoustic applications. Its solid hardwood roll-up doors coil conveniently overhead. And, to assure on time completion of your projects, Woodfold Mfg., Inc. has an excellent production cycle. Fax number 503-357-7185

503-357-7181
www.woodfold.com/AR

| Circle Reader Service #168

Custom Ceiling Solutions

Eventscape Inc.

eventscape

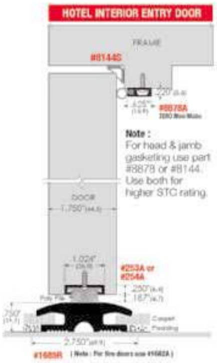
Eventscape manufactured the flowing, framed fabric ceiling panels that expand the spectrum of mood and atmosphere in this upscale restaurant complex in Miami. They work with designers worldwide to create unique solutions for ceilings, columns, walls, and special features, clad in any material. Contact them at info@eventscape.net "Create without boundaries."™

416-231-8855
www.eventscape.net

| Circle Reader Service #171

Hotel Entry Door Sealing Systems

Zero International, Inc.


HOTEL INTERIOR ENTRY DOOR
FRAME
#8144S
.220"
.425"
#8878A
Note :
For head & jamb gasketing use part #8878 or #8144. Use both for higher STC rating.
DOOR
1.750"
1.024"
#253A or #254A
.250"
.187"
Poly Pile
.750"
Carpet
Padding
2.750"
#1685R
(Note : For fire doors use #1682A)

Gaps around hotel room doors expose guests to hallway noise – and life-threatening smoke during fire emergencies. They also expose owners to the risk of fire code violations during yearly inspections under NFPA 80 2007 requirements. ZERO's sealing systems eliminate these problems while giving designers a variety of options to meet STC and air flow requirements.

800-635-5335
www.zerointernational.com

| Circle Reader Service #169

Custom Molded Architectural Shapes

Formglas

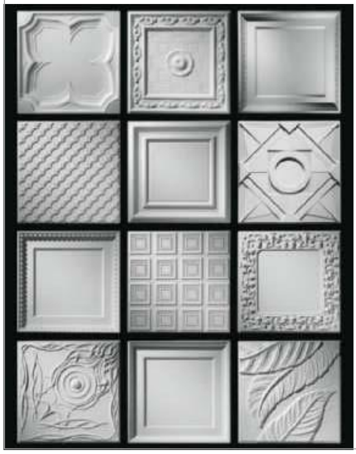
Custom molded architectural shapes by Formglas expand design opportunities for interiors and exteriors. Lightweight and durable GRG and GRC components are cast in an endless array of shapes, textures and color finishes. Their team of trained professionals work with you to find practical and easy to install solutions that enhance aesthetic appeal. Email Info-ar5@formglas.com

416-635-8030
www.formglas.com

| Circle Reader Service #172

Ornamental Plaster Ceiling Tiles

Above View Mfg., By Tiles, Inc.



Above View ornamental plaster ceiling tiles are fabricated from a non-toxic, non-combustible, proprietary composition. They drop into any standard 15/16-in. T-Bar grid system. There are more than 50 standard designs, custom design work, and 1,300 custom colors and faux finishes available upon request.

414-744-7118
www.aboveview.com

| Circle Reader Service #170

Floor System

Gage Corporation, Int.

The Gage Stainless Steel Floor System by Planium is a durable, high-tech flooring solution designed and manufactured in Italy for purity of form and ease of installation. The embossed stainless steel and black organic finishes have been designed to prevent traffic wear and are virtually indestructible. Contact the Gage factory for literature and sample requests. Email gage@centurytel.net

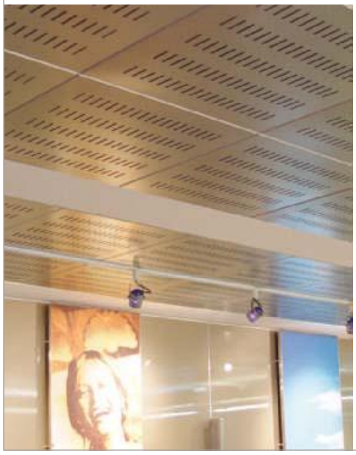
866-855-4243

| Circle Reader Service #173

TO ADVERTISE: Contact Elise Rutkowsky
T: (609) 426-7738 / F: (609) 426-7136
elise_rutkowsky@mcgraw-hill.com

Metal Ceilings

Gage Corporation, Int.



Setting a new standard for perforated metal ceilings, Gage introduces the revised 700 Series of perforated metal ceilings manufactured from 50% recycled aluminum. Standard designs include eight distinctive finishes and eight different perforation patterns. Selective and custom designs are also available. Contact the Gage factory for literature and sample requests. Email gage@centurytel.net

800-786-4243
www.gageceilings.com

| Circle Reader Service #174

Green Roof Systems

Homasote Company

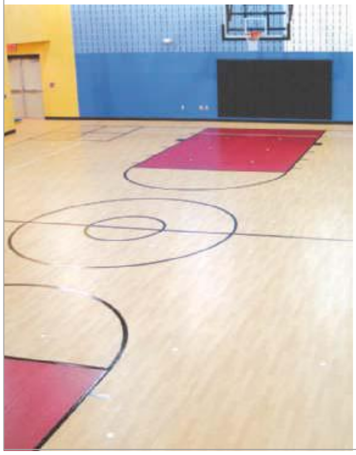
Homasote Company, one of America's leading green building products manufacturers and nailbase roof insulation's originator, has received Factory Mutual approval for N.C.F.R.® Thermasote® on steel roof decks. Use it to specify attractive, residential-looking roofs for multi-family, mixed-use, commercial, medical and other construction. For an alternative green roof system, excellent for conventional and LEED® construction, specify Firestall® Roof Deck with N.C.F.R. Thermasote. Wind uplift tests show these Homasote® systems make code in wind-prone areas.

800-257-9491 ext. 1211
www.homasote.com/thermasote

| Circle Reader Service #177

Versatile Sports Flooring

Gerflor



Taraflex® Sport M Plus provides the performance, shock absorption, accurate ball bounce and correct coefficient of friction for turning and pivoting necessary for athletic programs. This multilayer floor by Gerflor also supplies the comfort, durability and easy maintenance necessary for multipurpose uses. Proprietary product treatments minimize friction burn risk and prevent bacteria and fungus growth. When versatility is the key to success, Taraflex® Sport M Plus delivers in 17 colors.

800-727-7505
www.gerflortaraflex.com

| Circle Reader Service #175

Interior Paints

ICI Paints

Dulux
PRO
PREMIUM
1402
INTERIOR WALL & TRIM PAINT
ACRYLIC EGGSHELL

Dulux Pro Premium interior paints offer outstanding coverage, hide, durability and touch-up. Available in the full Master Palette® color offering and in a variety of finishes, Dulux Pro Premium is formulated to meet MPI Green Performance and LEED criteria. Dulux is a leading brand of premium quality paints, primers and finishes, including LifeMaster™, Fortis®, Pro Premium™, Pro Standard and Advanced Oil™. Dulux is preferred by paint specifiers for new and existing commercial, institutional and industrial buildings.

800-984-5444
www.icipaintsstores.com

| Circle Reader Service #178

Sports Floors

Haro Sports Floors

HARO
SPORTS FLOORS
American Sports Center, Anaheim, CA
100,000sf of Haro Helsinki 10
Largest Sports Hall in the World

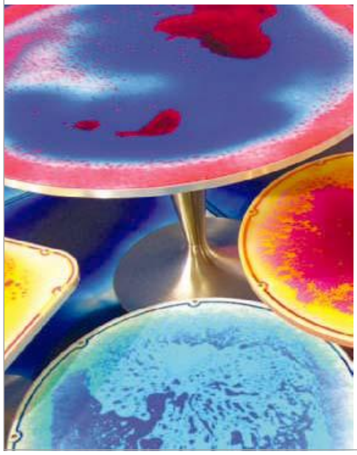
Athletes shouldn't suffer through injuries due to a poor performing sports floor. Athletic Floor Systems provides high performing, safe and low cost gymnasium floors. AFS supplies sports floors for competition gyms, sports arenas and multi-purpose facilities. There are more than 7500+ installations in over 65 countries. Demand performance, safety and low cost in your next sports floor.

800-323-6792
www.haro-usa.com

| Circle Reader Service #176

Interactive Floors & Table Tops

Jockimo Inc.



Living Surfaces™ Liquid Lava™ products are exciting new modular floor tiles and table tops consisting of liquid sealed within the tiles. The tiles are resilient and when pressure is applied, the floor or table top literally moves and swirls around one's feet or hands. Playful images of color and light create a sensation and atmosphere unlike any other flooring or table top product before. Please visit their web site to see color, size, and other options.

949-251-1560
www.jockimo.com

| Circle Reader Service #179

TO ADVERTISE: Contact Elise Rutkowsky
T: (609) 426-7738 / F: (609) 426-7136
elise_rutkowsky@mcgraw-hill.com

Expand Your Architectural Options

Linetec

CONTINUING EDUCATION
AIA

Linetec, a Kynar 500/Hylar 5000 paint, anodize and powder coat finisher offers "Introduction to Coatings: Field Performance and the Application Process" as a registered online learning program to help you attain your AIA Continuing Education credits. This presentation is available on-demand from Linetec's Architect Resource Center located on their web site at www.linetec.com.

888-717-1472
www.linetec.com

| Circle Reader Service #180

Porcelain Floor Tiles

Viva Ceramica

As is often the case, they were trying to achieve one thing and produced another. The press-glazed Pietraluna series is not glazed as such, but is created on the press using a blend of pigments and a porcelain tile body mix. In the classical 30 x 60cm and 60 x 60cm sizes and in 6 colors, the honed haematite gives the ultra-hard, acid-resistant surface a shine with "lunar" tints.

www.cerviva.it

| Circle Reader Service #183

Exterior Tin Ceilings

M-Boss Inc.

Enhance the overall design of any exterior space with a pressed metal ceiling from M-Boss Inc. Choose from hundreds of patterns and finishes; in patterns ranging from sleek, contemporary styles to traditional designs replicated from turn-of-the-century originals. Available in three substrates: aluminum, solid copper and tin. Products are economically and promptly shipped direct to job sites.

877-29 M-Boss (877-296-2677)
www.mbossinc.com

| Circle Reader Service #181

Architectural Sheetmetal Products

CopperCraft

Structural integrity and performance are as important as aesthetics. Applying this understanding to the manufacture of its products is what sets CopperCraft apart from the competition. Their design, engineering, testing, and fabrication methods meet stringent structural and performance standards. You get unsurpassed quality, delivery, and custom service including a nationwide network of representatives. Their complete line of high quality architectural sheetmetal products include ornamental dormers, roof vents, roof drainage products, conductor heads, steeples, cupolas, and spires.

800-486-2723
www.coppercraft.com

| Circle Reader Service #184

Authentic Tin Products

The American Tin Ceiling Company

The nation's largest manufacturer and direct shipper of tin ceiling products offering over 55 powdercoat finishes in 32 patterns. Exclusive distributors of the innovative SnapLock and 3D Drop-in tin ceiling panel systems. Eight designers available for free design consultation. Orders shipped direct worldwide. Lowest price guaranteed for finished tin ceiling panels.

888-231-7500
www.americantinceilings.com

| Circle Reader Service #182

Architectural Walls

KI

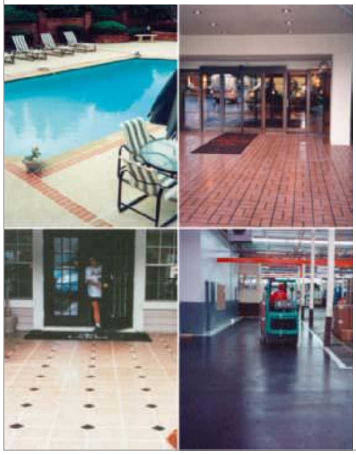
KI expanded its Genius® wall line to include horizontal and plate glass shells. Finishes include glass, fabric, vinyl, veneer, and powdercoat/textured paint. Installs in 25 mins./linear ft. 44 to 48 STC rating on solid panels. Genius walls are Greenguard certified and help comply with the USGBC LEED® rating system. Email info@ki.com

920-468-8100
www.ki.com/genius

| Circle Reader Service #185

Surface Protection

PERMA·CRETE®



ICC approved PERMA•CRETE® surfaces provide architectural, load-bearing strengths of over 6,000 PSI compressive strength, and are sealed, nonporous, and chemically resistant to solvents, stains, temperatures and UV rays. The products can be applied over most surfaces including building exteriors, driveways, sidewalks, bridge decks and pool interiors. PERMA•CRETE® renews instead of removes, enhances property values, and is a cost-effective way of eliminating surface deterioration and costly maintenance.

800-607-3762
www.permacrete.com

| Circle Reader Service #186

Electric Kilns

Skutt Kilns

Skutt is a leading brand of kilns and kiln accessories specified for schools in the United States. Most Skutt products carry a full safety listing and all come with a two year warranty. Now Skutt products are easier than ever to specify with 3 part, CSI formatted specs online.

503-774-6000
www.skutt.com

| Circle Reader Service #189

Architectural Surfaces

SOLI

SOLI offers one-of-a-kind architectural surfaces for traditional and contemporary applications. From metal to marble, granite to glass, SOLI products bring distinctive design to floors and walls, indoors and out. They also offer a variety of unique porphyry, cobblestones and pavers. View their extensive collection of innovative tile and natural stone at www.soliusa.com.

800-410-7654
www.soliusa.com

| Circle Reader Service #187

Outdoor Furniture

Modern Outdoor

Premier provider, designer, and manufacturer of high-style, clean-lined, environmentally conscious outdoor furniture that is still made here in America. They offer four complete lines of furniture engineered for use in heavy commercial applications with the aesthetics for residential environments. Their lines include chairs, tables, benches, settees, stools, club chairs, sofas, ottomans, loungers, planters, bar carts, accent tables, and bar height products. They also offer custom work. Contact: t. 818-785-0171, f. 818-785-0168, info@modernoutdoor.com or visit www.modernoutdoor.com.

818-785-0171
www.modernoutdoor.com.

| Circle Reader Service #190

Roof Guardrail System

Kee Industrial Products, Inc.

KeeGuard® fall protection systems are independently tested to meet or exceed OSHA Standard CFR 29 1910.23 and 1926.500, which require the presence of a barrier within 6-ft. of roof edges. The modular, freestanding guardrail system installs easily on flat or low-sloped roofs without penetrating the roof membrane. It is galvanized for corrosion resistance and features a new “drop in”-style fitting component that reduces installation time in half and accommodates more varied design configurations such as curved roofs. KeeGuard systems are also available to fit skylights, roof hatches, stairwells and walkways.

800-851-5181
www.KeeGuard.com

| Circle Reader Service #188

Saunas

Finlandia Sauna Products, Inc.

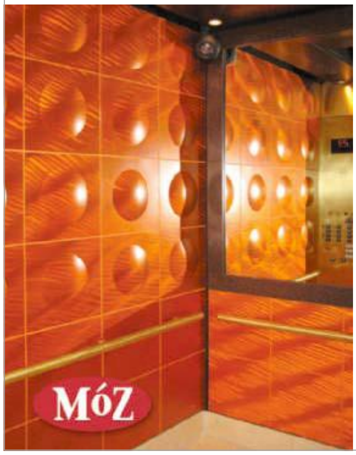
Finlandia Sauna has manufactured exclusive and authentic saunas (no infrareds) since 1964. Finlandia offers precut sauna packages and modular sauna rooms as an affordable luxury that can be included in any remodel or new construction. The company markets four all-clear western softwoods and is the only manufacturer to use 1-in. by 4-in. paneling, instead of the cheaper 1/2-in. by 4-in. material used by others. The complete package includes a choice of electric sauna heater with optional AV EverReady, the exclusive new energy saving heater which is always on—no heat up necessary.

800-354-3342
www.finlandiasauna.com

| Circle Reader Service #191

Metals + Architectural Products

Móz Designs



Móz new Elevator Interiors are prefabricated to offer easy installation and come in a variety of horizontal, vertical and square configurations. Their products stand up to high traffic and are available with durable Special Finishes. For a truly exceptional look, specify embossing and other unique features. Móz elevator interiors are available in aluminum and stainless steel with any combination of 12 unique patterns and 16 standard colors.

510-632-0853
www.mozdesigns.com/ar9

| **Circle Reader Service #192**

High-Output LED

Hunza Lighting USA

Hunza offers a range of premium outdoor fixtures with an optional, high-output LED lamp that features low heat, minimal energy usage and long operational life. The 3 W MR16 LED lamp is available in a choice of warm white, solid color or RGB color-change with infrared remote control.

310-560-7310
www.hunzausa.com

| **Circle Reader Service #195**

Large Lighting for Large Spaces

Engineered Lighting Products

These extruded, A15 fixtures are 7-1/4-in. by 25-5/8-in. by 28-in. They tilt for precise aiming of the asymmetric beam and can be secured in place. Interior and exterior wet location styles are available in one or two lamp configurations for Metal Halide, HPS or Fluorescent models. Fax number 626-579-6803 Email elp2@aol.com

626-579-0943
www.elplighting.com

| **Circle Reader Service #193**

Floodlights/Cardanic Systems

SELUX Corporation

PRO SERIES precision floodlights are available in three sizes with lamping choices that range from 13W CFL to 1000W H.I.D. Housings are of die-cast, highest purity aluminum. Choice of mounting, beam patterns, lenses, filters and louvers, as well as unique Cardanic Systems gimbal mounting frames for suspended and pole mount applications. Cardanic Systems suspended modules can be specified in highly individualized configurations. Electronic spec sheets available at our web site.

800-735-8927
www.selux.com/usa

| **Circle Reader Service #196**

Architectural Ceiling Fans & Lighting

G Squared Art

Balanced design that is light and airy. Moving sculpture. The San Francisco ceiling fan – a GOOD DESIGN Award winner. Whisper quiet, powerful, reliable and beautifully made, this timeless design is also available with a light kit and can be used on 8-ft. ceilings or on cathedral ceilings with optional downrods up to 6-ft. long. Suitable for sloped ceilings up to 29 degrees. Lifetime warranty. To buy high-design architectural fans and lighting, please visit G Squared Art's web site or call M-F 7 AM - 5 PM PST.

877-858-5333
www.g2art.com

| **Circle Reader Service #194**

Self-Locking Gate Latch

D&D Technologies

Lokk-Latch PRO®—SL provides self-locking and self-latching security in a latch that won't rust, is horizontally and vertically adjustable, and features a 6-pin re-keyable lock. Formed of super-strong engineering polymers with stainless steel components, it fits metal, wood and vinyl gates. A key is required to enter and exit (institutional function). Only one hole is drilled to connect the internal and external units. The latch fits posts up to 6-in., and comes with a limited lifetime warranty.

800-716-0888
www.ddtechglobal.com.

| **Circle Reader Service #197**

POSITIONS VACANT

UCLA, DEPARTMENT OF ARCHITECTURE & URBAN DESIGN

The Department of Architecture and Urban Design seeks to fill one (1) tenured position in the field of Architecture & Urban Design. The appointments will permit the successful candidates to join one of the strongest faculties of Architectural design in the US and to explore the vital architectural culture of Los Angeles. The Department has earned an international reputation, so preference will be given to candidates that share this global perspective. The program is committed to advanced architectural research and particularly to the integration of new technologies and critical studies in design. We seek to make appointments that further these commitments.

ASSOCIATE PROFESSOR OF DESIGN - Tenured

The responsibilities of the position focus on teaching design to graduate students pursuing a Masters of Architecture and to students in the newly established undergraduate program in Architectural Studies. The ideal candidate will demonstrate commitment to excellence in teaching and be internationally recognized for their design accomplishments. Demonstrated a interest in and capacity to use new computer design technologies is highly recommended. The successful candidate will be able to teach at least one course in the field outside of studio design, such as technology or history/critical studies. The candidate must have an advanced degree in Architecture and a minimum of three years of teaching experience. It is anticipated that this position will be filled at the rank of Associate Professor with tenure.

ASSISTANT PROFESSOR OF DESIGN – Tenure Track

The responsibilities of the position focus on teaching design to undergraduate students in a newly established major in Architectural Studies, as well as the graduate students pursuing a Masters of Architecture Degree. The ideal candidate will demonstrate a commitment to excellence in teaching and creative design, and should indicate strong promise of future achievement. Demonstrated interest in and capacity to use new computer design technologies is highly recommended. The successful candidate will be able to teach at least one course in a field outside of studio design, such as technology or history/critical studies. The candidate must have an advanced degree in Architecture, and a minimum of three years teaching experience preferred. It is anticipated that this position will be filled at the rank of Assistant Professor.

Candidates for both positions are requested to furnish a letter of intent with curriculum vitae, one or two examples of design work, with a description of each project (non-returnable), and the names, phone numbers, mail and e-mail addresses of three references able to provide a knowledgeable evaluation of the applicant's qualifications. Please do not send additional support materials until they are requested. Application deadline is November 30, 2007, or until filled.

Address letters of application to:
Search Committee Chair for the Associate/Asisstant Professor of Design Position, Department of Architecture and Urban Design, UCLA, 1317 Perloff Hall, Los Angeles, CA 90095-1467.

The University of California is an Equal Opportunity/Affirmative Action Employer. Proof of U.S. citizenship or eligibility for U.S. employment will be required prior to employment (Immigration Reform and Control Act of 1986).

FACULTY POSITION IN CONSTRUCTION MANAGMEMT

The Department of Civil Engineering and Construction at Bradley University invites applications for a tenure-track faculty position at the Assistant Professor level in the area of construction management starting in the Spring or Fall 2008. Applicants should have earned a PhD in Architecture, Construction Management, Civil Engineering, or other appropriate field. The minimum requirement is a Master's degree in architecture or construction management and relevant industrial experience. Preference will be given to individuals with a PhD in Construction Management or terminal degrees in Architecture including Masters. Individuals with a Master's degree in Construction Management will be considered for a non-tenure track Assistant Professor or Instructor position depending on applicant qualifications. Selected candidates should have a broad background that may include knowledge of architecture, construction graphics, materials and methods, contract documents, project management, estimating, scheduling, automation, information technology, and construction simulation. Duties include teaching, course development, and research. Salary and rank are commensurate with qualifications. The position provides exceptional opportunities for individuals who wish to be associated with a first-rate multi-disciplinary department with a rapidly developing Center for Emerging Technologies in Infrastructure with strong ties to major industrial partners and eminent internationally renowned universities. The selected candidate will also have unique opportunities to teach overseas through our study abroad programs in England, France, Denmark and Egypt. The department currently has 15 full-time faculty members and approximately 250 students. Interested applicants should submit a cover letter addressing the qualifications of the position, complete resume that includes a list of relevant graduate courses, a statement of teaching and research interests, and contact information for at least three professional references to: Chair, Construction Search Department of Civil Engineering and Construction Bradley University 1501 W. Bradley Avenue Peoria, IL 61625 Review of applications will begin immediately and continue until the position is filled. Bradley University is an Equal Opportunity Employer. The administration, faculty and staff are committed to attracting qualified candidates from groups currently underrepresented on our campus.

ARCHITECT/ENGINEER

The International Masonry Institute, a labor/management trade association, is seeking to expand its technical services and market development programs in the Boston and New Jersey areas. Responsibilities include working with building owners, developers, designers and community groups to encourage the use of masonry materials, handling technical questions from designers and builders, providing educational seminars on masonry, influencing local codes and standards, and working on national projects as part of a larger team effort. Strong presentation and communications skills are required. Competitive salary and benefits. Please email your resume to imijobs@imiweb.org.

ARCHITECTS

As a well-known recruiting firm, we can help advance your career. JR Walters Resources specializing in A&E placements. Visit our web site: www.jrwalters.com
Tel: 269 925 3940

INTERIOR DESIGNER
MIAMI, FL

One year exp & bachelor deg or foreign equiv req'd. Fax resumes to: Luminaire, Attn. A. Galiano, at 305-437-9690.

JOB CAPTAINS
PROJECT MANAGERS

WESTAR Architects is a dynamic, energetic firm offering architectural, master planning, and interior design services to clients in the casino, hospitality, and commercial industries. Currently seeking Job Captains and Project Managers, both with a minimum of 5 years of work experience in the commercial design and architectural field. Experience in a fast-paced, deadline-oriented environment is critical to the success of the candidate. WESTAR offers competitive pay, a comprehensive benefits package, and company perk's. Please forward your resume to: hr@wagnarchitects.com., or call 702.878.0000 for more information

ARCHITECTURAL DESIGNER

For graphic dsgn, artistic renderings, architectural drawings, interior remodeling & budget planning using Archicad, Light-works rendering, Photoshop, Illustrator & Excel prgms. F/T. M-F. Applicants w/Bachelors in Architecture w/2 yrs exp in hi-rise condos, send resumes only to: Juan Arcila, OA Developments, Inc, 801 Brickell Ave, #930, Miami, FL 33131.

ARCHITECT

Multiple openings. Construction documentation, coord w/ engrs. Review shop drawings. Req'd deg. Send 2 resumes to: H. Acton, H/L#12, Kendall/Heaton Associates, Inc. 3050 Post Oak Blvd., Ste 1000, Houston, TX 77056

BUSINESS OPPORTUNITIES

Full Service Architectural Firm with Education Specialty

Turnkey capabilities, excellent track record and responsive client service supports 2007 revenue projections of $5.8MM and EBITDA margins of 27%. Capabilities encompass architectural, programming, design, and master planning services. Backlog of $15.9MM to be completed over 3-4 yrs. Email **MarketingOnlineD@MarchGroup.com**

CONFIDENTIAL CLEARINGHOUSE FOR MERGERS & ACQUISITIONS

Strogoff Consulting offers confidential introductions between prospective buyers and sellers, develops valuations and guides firms through the acquisition/merger process. As a strategic advisor to firms throughout the U.S., Michael Strogoff, AIA, has an extensive network of contacts and an insider's knowledge of the architectural industry. Firms are introduced to each other only when there is a shared vision and a strong strategic and cultural fit. Contact Michael Strogoff, AIA, at 866.272.4364 or visit www.StrogoffConsulting.com. All discussions held in strict confidence.

ARCHITECTURAL RECORD

To view
Architectural Record
online visit:
www.architecturalrecord.com

FUTURE•IN•SIGHT

OUTLOOK 2008

Executive Conference

Industry **trends**.
The economic **forecast**.

You are cordially invited to join your peers from major building product manufacturing firms, design and contracting firms, and industry associations at the 69th annual **Outlook Executive Conference**, being held October 24-25, 2007 in Washington, D.C.

- Gain insight into the future as **Robert Murray**, McGraw-Hill Construction's vice president of economic affairs, presents the McGraw-Hill Construction 2008 Outlook. **David Wyss**, chief economist for Standard & Poor's, and **Kermit Baker**, chief economist for The American Institute of Architects, will also provide insight into the economic trends that will shape the construction industry for 2008.
- Hear from the experts on several relevant topics: Arup Group's **Dr. Chris Luebkeman**, director for global foresight and innovation discusses the latest trends shaping the global construction industry; **John Mothersole**, principal of Global Insight Industry Practices gives us a view of 2008's building materials pricing; and **Rick Fedrizzi,** president, CEO and founding chairman of the U.S. Green Building Council shares his views on the "green" construction outlook for 2008.
- **Building Product Manufacturer Executive Panel**: **Rick Walker**, senior national manager of environmental solutions for Siemens Building Technologies; **Susan Kennedy**, director of marketing services for Sloan Valve Co.; and **Mark R. Johnson**, manager of architecture and design at Whirlpool Corporation.
- Luncheon Speaker – **Tucker Carlson**, host of MSNBC's *Tucker*, will remark on the 2008 political landscape, and provide insider knowledge of the real stories behind the headlines.

October 24-25, 2007
Capital Hilton
Washington, DC

Space is Limited –

REGISTER TODAY!
BEFORE SEPTEMBER 14 - $475
AFTER SEPTEMBER 14 - $575

VISIT:
construction.com/event/
Click on the Outlook 2008 button

CALL:
(866) 727-3820

E-MAIL:
Cristina_hoepker@mcgraw-hill.com

The ACE Mentor Program of America 3rd Annual Legacy Awards Dinner

is being held on Wednesday Evening, October 24. Join your peers at this prestigious event, and learn how the ACE Mentor Program is succeeding in its efforts to alleviate the work force crisis in the United States. For event and registration information, call (603) 540-0575 or go to:
http://www.AceLegacyAwards.com

connecting people_projects_products

McGraw_Hill
CONSTRUCTION

Find us online at www.**construction**.com

*The **McGraw·Hill** Companies*

connecting people_projects_products

Architectural Record
2007 Innovation Conference
October 10-11, 2007–New York City

The BusinessWeek/
Architectural Record
Awards Dinner
October 10, 2007

Earn AIA CEU Credits

Register today!
Call Cristina Hoepker at **866-727-3820**
Email Cristina_Hoepker@mcgraw-hill.com

The Fulton Street Transit Center, by Grimshaw Architects is one of the case studies that will be presented at *Architectural Record's* 2007 Innovation Conference.

Rethink. Transform. Create. Sustain.

A world-wide mandate for low-energy, low-carbon-producing architecture has burst onto the scene just as advances in digital modeling tools, software-driven fabrication methods, and new materials and systems are being introduced faster than ever. Learn from highly-inventive architects, engineers, researchers, and consultants who are putting these exciting developments to work, and making delightful and sustainable buildings.

Keynote addresses by:

Sir Nicholas Grimshaw, RIBA, Chairman, Grimshaw Architects

William J. Mitchell, Director, MIT Design Laboratory

Key Corporate Sponsors:

BENTLEY® MechoShade® PPG IdeaScapes™ Glass • Coatings • Paint

McGraw_Hill CONSTRUCTION Architectural Record

ARCHITECTURAL RECORD
07 INNOVATION
conference

Architectural Record Innovation 2007:

Architecture in an Age of Transformation

The notion that design is a simple, linear process has imploded, yielding a fundamentally new view of what it means to be an architect. **Join us.**

Agenda at a glance:

Performative Architecture
-Branko Kolarevik, Haworth Chair in Environmental Design, University of Calgary, with Ali Malkawi, Director, Chan Center for Building Simulation and Energy Studies, University of Pennsylvania

Building Facades and Skins
-Advanced Facade Design, Marc Simmons, and Bruce Nichol, Front Inc.,
-William Zahner, president of A. Zahner Metals,

Transformative structures
-Chuck Hoberman, Hoberman Design

The Power of Design to Affect Transformation
-Gary Van Deursen, of Van Deursen Innovation and Design

Work in place: Case Studies of Innovative and High Performance Materials and Systems

Investigating the Art and Science of Glass and Light
-James Carpenter, principal of Carpenter Design Associates, and Davidson Norris, principals of Carpenter/Norris Consulting, Advanced Daylighting Systems

-Marilyne Andersen, PhD, Department of Architecture, at the Massachusetts Institute of Technology

Case Study: The Fulton Street Transit Center
-Andrew Whalley and Vincent Chang of Grimshaw Architects, with James Carpenter

Be the future. Be a part of Innovation 2007.

MAR78INN

See full agenda and register: www.construction.com/events/Innovation07/

The McGraw·Hill Companies

ADVERTISERS INDEX

Bold: Indicates Page Number. *Italic:* Indicates Reader Service Number. Ⓢ Get more info at **www.sweets.com**

95	*58*		3form *3-form.com*
77	*48*		AAMA *aamanet.org*
148	*69*	Ⓢ	Acme Brick *www.brick.com/colorguide*
86	*53*		Adams Rite Manufacturing Co *adamsrite.com*
157	*72*		AGC Flat Glass North America *afgglass.com*
146,174,176			AIA *aia.org*
194	*86*		American Galvanizers Assocation *galvanizeit.org/galvpaint*
196	*90*		Arakawa Hanging Systems *arakawagrip.com*
101	*64*		Architect as Developer *architectasdeveloper.com/ar*
18, 20			Architectural Record *archrecord.construction.com*
88	*55*		Architectural Woodwork Institute *awinet.org*
145	*67*		ArcusStone *arcusstone.com*
cov2-1	*1*	Ⓢ	Armstrong *armstrong.com*
32	*22*		AS Hanging Systems *arts-supplies.net*
51			Autodesk *autodesk.com*
cov-3	*106*		Avonite Surfaces *avonite.com*
31	*21*		B-K Lighting *bklighting.com*
175	*79*	Ⓢ	BASF Wall Systems - Finestone *finestone.cc*
201	*97*	Ⓢ	Belden Brick Company, The *beldenbrick.com*
195	*89*	Ⓢ	Bendheim *bendheim.com*
38	*28*		Bentley Systems Inc *bentley.com*
97	*60*		Blanco *blancoamerica.com*
71	*44*	Ⓢ	Bobrick *bobrick.com*
100	*63*		Borano *borano.com*
3, 13	*3, 7*	Ⓢ	C/S Group *c-sgroup.com/3000*
21, 41	*13, 29*	Ⓢ	C/S Group *c-sgroup.com/3000*
109	*116*	Ⓢ	Canterbury International *canterburyintl.com*
196	*91*		Cascade Coil Drapery *cascadecoil.com*
1, 49	*2, 33*	Ⓢ	CENTRIA Architectural Systems *centria.com*
12-13	*8*	Ⓢ	CertainTeed *certainteed.com*
194	*88*		Charles Loomis *charlesloomis.com*
78	*49*		CNA AEC Design Liability *planetriskmanagement.com*
33	*12-18*		Cooper Lighting *cooperlighting.com*
108	*115*	Ⓢ	CR Laurence Co Inc *crlaurence.com*
200	*96*		Creative Form Liners Inc *terrazzo.com*
6, 198	*5, 93*		Creteseal *creteseal.com*
143	*66*		Decoustics *decoustics.com*
194, 204	*87, 102*	Ⓢ	Doug Mockett & Company Inc *mockett.com*
21	*9*	Ⓢ	DuPont Corian *corian.com*
107	*114*	Ⓢ	DuPont Tyvek *tyvek.com*
cov-3	*20*	Ⓢ	Dwyer *dwyerkitchens.com*
144 C	*110*	Ⓢ	E Dillon & Company *edillon.com*
98	*61*		East Teak *eastteak.com*
147	*68*		EIMA Association *eima.com*
14, 15	*9, 10*		elliptipar *elliptipar.com*
188	*144*		Eventscape *eventscape.net*
204			Expo Cihac *expocihac.com.mx*
191	*83*		Finelite *finelite.com*
199	*95*		GR Plume Company *grplume.com*
150	*70*		Grohe *groheamerica.com*
53-56	*35*		Gypsum Association *gypsum.org*
186	*112*	Ⓢ	Halfen Anchoring Systems *halfenusa.com*
192	*84*		Hampstead Lighting *hampsteadlighting.com*
99	*62*		Hanover Architectural Products *hanoverpavers.com*
cov-4	*107*	Ⓢ	Haworth *haworth.com*
193	*85*	Ⓢ	HDI Railing Systems *hdirailings.com*
cov-4	*21*		HDR *hdrinc.com*
219	120		Headwaters Resources *flyash.com*
39			Healthcare Facilities Symposium & Expo *hcarefacilities.com*
47	*32*		Hewlett-Packard *hpengineeringsolutions.com*
96	*59*	Ⓢ	High Concrete Structures Inc *highconcrete.com*
163	*74*		Holcim Foundation *holcimfoundation.org*
30	*20*		ICI Paints Dulux *duluxpaints.com*
65	*40*		iLevel by Weyerhaeuser *www.ilevel.com*
36	*26*		InterEdge Technologies *firesafe-glass.com*
67	*42*		J&J Commercial *jjcommercial.com*
6	*4*		Jack Arnold Architect *jackarnold.com*
92	*57*	Ⓢ	JELD-WEN Windows & Doors *jeld-wen.com*
66	*41*		Julius Blum & Co Inc *juliusblum.com*
cov-2	*1*	Ⓢ	KI *ki.com*
110	*65*	Ⓢ	KI *ki.com*
181	*80*		Kim Lighting *kimlighting.com*
80A-B			Kohler *kohler.com*
168-173	*77, 78*	Ⓢ	KONE *kone.com*
144 D	*111*	Ⓢ	Lafarge North America *lafargenorthamerica.com*
37	*27*		LG HI-MACS *lgcountertops.com*
52	*34*		LightingUniverse.com *lightinguniverse.com*
28	*19*	Ⓢ	Lutron *lutron.com*
202	*98*		Manning Lighting *manningltg.com*
8-9	*6*		Marvin Windows & Doors *marvin.com*
26-27, 37			McGraw-Hill Construction *construction.com*
42-43, 44			McGraw-Hill Construction *construction.com*
185, 215			McGraw-Hill Construction *construction.com*
216-217			McGraw-Hill Construction *construction.com*
167	*76*		MechoShade Systems Inc *mechoshade.com*
2-3			Mitsubishi Electric *transforminghvac.com*
203	*99*		modularArts *modulararts.com*
166	*75*	Ⓢ	Mortar Net *mortarnet.com*
2, 203			National Building Museum *nbm.org*
32A-D	*149*	Ⓢ	National Terrazzo & Mosaic Assn *ntma.com*
187	*82*		Natural Carpet Company, The *naturalcarpetcompany.com*
91	*56*		Natural Stone Council *genuinestone.org*
144 B	*109*		NJ SmartStart Buildings *njsmartstartbuildings.com*
10-11, 19	*7, 12*	Ⓢ	Oldcastle Glass *oldcastleglass.com*
81	*50*		OMNIA *omniaindustries.com*
82	*51*	Ⓢ	Owens Corning *owenscorning.com*
4	*4*	Ⓢ	Pawling *pawling.com*
144	*113*	Ⓢ	Petersen Aluminum *pac-clad.com*
144 A	*108*	Ⓢ	PGT Industries *pgtindustries.com*
24	*15*	Ⓢ	Pilkington *pilkington.com*
96A-B		Ⓢ	Pilkington *pilkington.com*
76	*47*		Poliform USA *trep-trepiu.com*
25	*16*	Ⓢ	Poltrona Frau *frauusa.com*
16	*11*	Ⓢ	PPG *ppgideascapes.com*
22-23	*14*	Ⓢ	PPG *ppgideascapes.com*
183	*81*		Prescolite *prescolite.com*
219	*105*	Ⓢ	Rakks *rakks.com*
23	*10*	Ⓢ	Rixson *rixson.com*
87	*54*		Robinson Brick Company *robinsonbrick.com*
34	*24*		Rocky Mountain Hardware *rockymountainhardware.com*
205	*103*		Rulon Company *rulonco.com*
75	*46*		SageGlass *sage-ec.com*
85	*52*		Schott Corporation *us.schott.com*
57	*36*	Ⓢ	Sherwin-Williams *sherwin-williams.com*
35	*25*		Simpson Strong-Tie Company Inc *simpsonstrongwall.com*
202			Skyscraper Museum, The *skyscraper.org*
11, 43	*6, 30*	Ⓢ	Sloan Valve Company *sloanvalve.com*
68	*43*		SMACNA *asm-expertise.com*
204	*100*		Spark Modern Fires *sparkfires,com*
198	*94*	Ⓢ	Special-Lite *special-lite.com*
4	*2*		Sun Valley Bronze *svbronze.com*
33	*23*	Ⓢ	Sunbrella brand fabrics *sunbrella.com*
159	*73*		Tambient *tambient.com*
5	*3*		Technical Glass Products *fireglass.com*
58	*37*		Teragren *teragren.com*
61	*38*	Ⓢ	Thermador *thermador.com*
62	*39*		Timely *timelyframes/ar.com*
44	*19*	Ⓢ	Trenwyth *trenwyth.com*
45	*142*		TurboChef *theovenreinvented.com*
205	*104*		Unico System, The *unicosystem.com*
155		Ⓢ	USG Corporation *usg.com*
7	*5*		Viking Range Corporation *vikingrange.com*
72	*45*		Vista Window Film *vista-films.com*
14	*8*		Vitrulan Corporation *vitrulan.com*
27	*18*	Ⓢ	VT Industries *vtindustries.com*
26	*17*	Ⓢ	Walker Zanger *walkerzanger.com*
197	*92*		Wausau Tile *wausautile.com*
25	*11*		Whitehall Manufacturing *whitehallmfg.com*

For information from advertisers circle the corresponding number on the Reader Service Card or go to **ArchitecturalRecord.com**, Products Tab, Reader Service. Access PDF's of all full-page or larger ads appearing in *Architectural Record* each month under “Products” tab at Product Ads. Use this to e-mail ads to clients or colleagues, print out and save.

ARCHITECTURAL RECORD

CALL FOR ENTRIES 2008 Record Houses

The editors of ARCHITECTURAL RECORD announce the 2008 RECORD HOUSES awards program. Entry is open to any architect registered in the U.S. or abroad. Of particular interest are projects that incorporate innovation in program, building technology, form, and materials. Projects must be built, single-family dwellings. The fee is U.S. $65 per submission; please make checks or money orders payable to ARCHITECTURAL RECORD (we cannot accept credit cards or wire transfers). Submissions must include plan(s), photographs (prints or color laser, no slides or CDs), a brief project description, and entry form—all firmly bound in a 9-by-12-inch folder. Ring, spiral, perfect, or book binding, as well as portfolios with attached sleeves are acceptable options. Entries submitted as loose pages will be disqualified. Your submission must be postmarked no later than October 31, 2007. Anonymity is not necessary. Selected entries will be featured in 2008 RECORD HOUSES. Other submissions will be returned or scheduled for a future issue. Please be sure to include a pre-addressed envelope with an air bill for the return of your materials. Allow 10 weeks for notification.

Name of firm: ______________________
Address: ______________________
Phone: ______________________
Fax: ______________________
E-mail: ______________________
Contact person: ______________________
Name of house: ______________________
Location of house: ______________________

If previously (or scheduled to be) published, please include a copy of the article, name of magazine or newspaper, and publication date:

____

Agreement: We will not offer this project for consideration by another national publication during the 10-week review period at ARCHITECTURAL RECORD.

Signature: ______________________
Print name: ______________________
Date: ______________________

Submissions should be mailed to: Linda Ransey, RECORD HOUSES / ARCHITECTURAL RECORD, Two Penn Plaza, Ninth Floor, New York, NY 10121. This form must be included with your submission. If you have any questions, please e-mail: Sarah Amelar at sarah_amelar@mcgraw-hill.com OR Linda Ransey at linda_ransey@mcgraw-hill.com

Turning Gray Concrete GREEN

These microscopic, glassy spheres are fly ash – and at Headwaters Resources, we sell millions of tons of them every year.

Produced by burning coal at electric power plants, fly ash might be destined for disposal in a landfill. But when added to concrete, fly ash makes concrete easier to work, stronger and more durable.

Fly ash also enhances the environmental performance of concrete. Mining and manufacturing of natural raw materials can be reduced along with decreasing greenhouse gas emissions. In fact, using a ton of fly ash can save almost a ton of CO_2 emissions from being introduced into the atmosphere. In addition to concrete, fly ash is used in mortars, stuccos, paints, artificial stone, carpets, ceiling tiles, soil cement, pervious concrete and a variety of other building materials.

That's an improvement worth specifying.

Contact Headwaters Resources for free technical literature and information on how fly ash use benefits the environment.

CONTINUING EDUCATION AIA REGISTERED PROVIDER

U.S. GREEN BUILDING COUNCIL MEMBER

HEADWATERS RESOURCES

www.flyash.com · 1-888-236-6236

CIRCLE 120 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

© Steven Brooke Studios

Rakks wall-mounted shelving at Christine Desirée Collection, Sarasota, FL Interior Design: Christine Desirée

SUPPORTING SPATIAL EFFECTS

Rakks Bracket

Rakks on Pole

Universal Bracket

Aria Bracket

We play a supporting role in interiors that create harmony between decor and architecture. With strong, innovative shelving systems that meet the demands of the world's top designers. Rakks. The choice for new and exciting shelving solutions. Visit us at www.rakks.com or call for a free catalog.

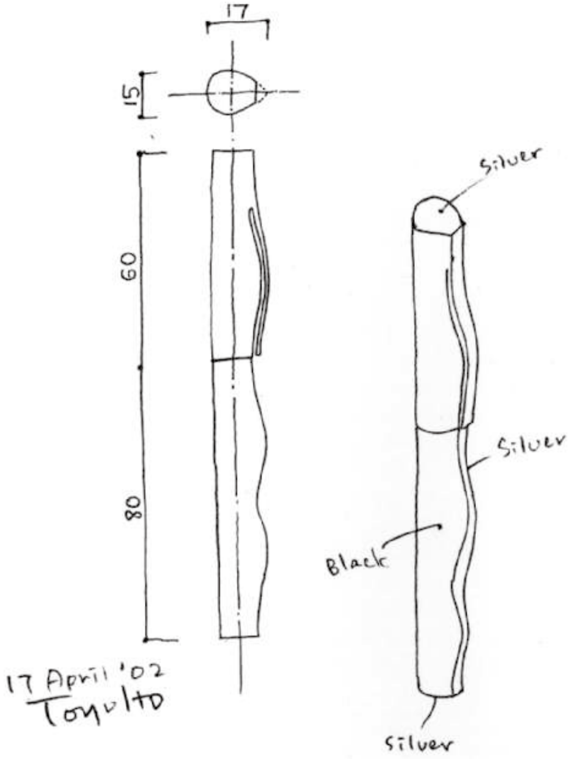
Rakks®

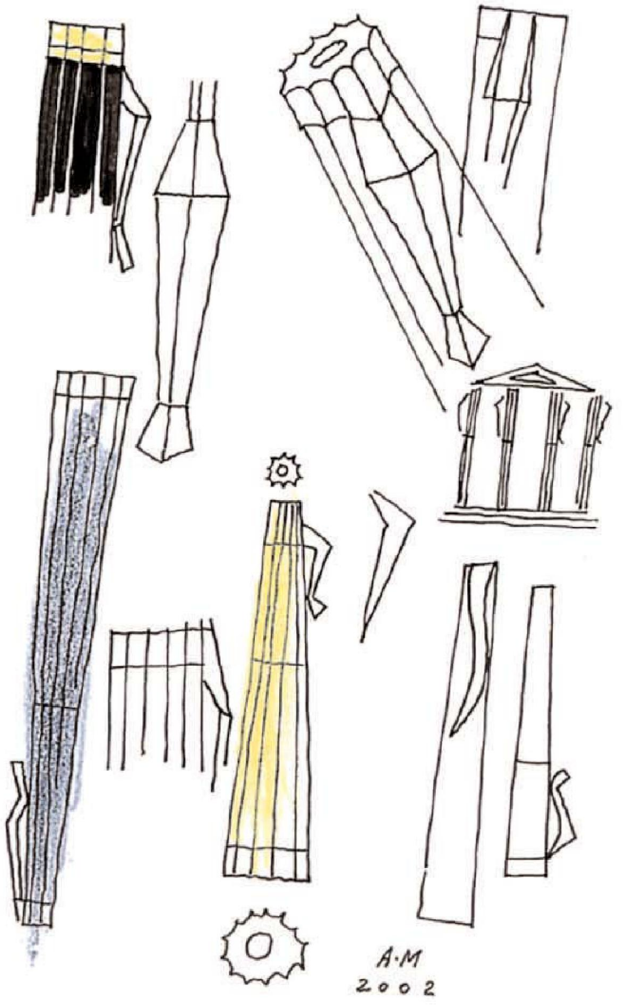
In supporting roles everywhere

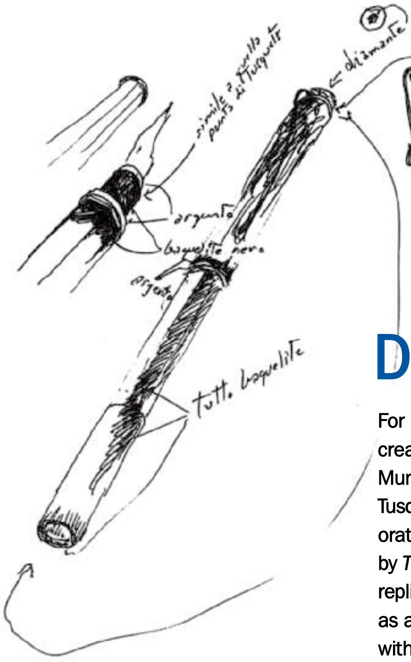
Rangine Corporation | 114 Union Street | Millis, MA 02054800-826-6006 | www.rakks.com

CIRCLE 105 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

The Architect's Hand


17
15
60
80
Silver
Silver
Black
Silver
17 April '02
Toyo Ito




simile a quella della punta di Tusquets
diamante
pezzo in acciaio sezione circolare Ø 1,5 mm
argento
baquelite nero
argento
tutto baquelite

Drawing together architects and writers

For more than 30 years, Cleto Munari has collaborated with architects and designers from around the world to create precious, well-designed objects for his Vicenza, Italy–based design company. For his most recent project, Munari invited four architects, Toyo Ito (Japan), Alessandro Mendini (Italy), Álvaro Siza Vieira (Portugal), and Oscar Tusquets (Spain), to each design a pen dedicated to an individual Nobel Laureate in Literature. To promote the collaboration, each limited-edition pen (starting from $600 for the fountain pen, $550 for the roller ball) is accompanied by *The Book of the 5 Pens*, a hard-cover, perfect-bound book, complete with prints of the original pen designs and replicas of notes the Laureates wrote to Munari explaining their personal relationship with pens. Beyond functioning as a clever marketing piece, Munari's book illustrates the bond that writers and designers share by creating art with strokes of ink on paper.

While the pen designs were conceived by the architects in 2002, they are only now available in the U.S. According to Mendini, his pen design dedicated to American writer Toni Morrison was inspired by the shape of a tapered column, with a fluted shaft and a base. In his sketch, "Many pens positioned upright next to each other form a temple," he explains. Mendini remains strongly connected to hand drawing, favoring the Tratto Clip pen and colored pencils. "Almost every project I design, at whatever scale—be it architecture or design—starts out with a sketch." *Rita Catinella Orrell*

Clockwise from top left: Pen design by Toyo Ito, ink, 2002; pen design by Alessandro Mendini, ink and colored pencils, 2002; pen design by Álvaro Siza Vieira, ink, 2002.

MY DIARY

ELVIS AND THE ... RCADOGS

A project like South Tulsa Pediatric Clinic has a life for me, a beginning and end, and it is part of me. I spend almost all of my time focused on Healthcare, and Pediatric projects have a special place for me. Children are often sick and afraid, and our design can help put them at ease during a difficult time. Our client loves the Avonite Antique Glass, and the translucence of the product pulls the design through. We wanted kids to walk through and be in awe, and our client is very impressed. No one else has a product like this.

I am Jennifer Hodges from Curtis Group Architects, and I help children smile when they're afraid. South Tulsa Pediatric is now part of my life.

JENNIFER HODGES
Curtis Group Architects, LTD ✽ Dallas, Texas.

800.4.avonite | avonitesurfaces.com/mydiary

AVONITE SURFACES

CIRCLE 106 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

great spaces.

HAWORTH®
change by design

See the new Compose™ furniture system – and other products and solutions – that help make workspaces great spaces.

Visit our new Washington, D.C. showroom or any of the other Haworth locations around the world.

www.haworth.com
866.833.4343

CIRCLE 107 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/